# GUIDE to HEALTH

#### THROUGH THE

# Various Stages of LIFE.

Wherein are Explained,

- 1. The different Degrees and Changes of Age, the principal and inevitable Causes of OLD AGE, and finally of our Dissolution; with a Chronological and Historical brief Account of long Lives from before the Flood to this present Time.
- II. The Nature, Preparties, Qualities, and Influence of Air. Of Aliments; the Choice of them; their Power upon Human Bo-
- dies, with their good and bad Effects. Of Sleeping and Waking; of Motion and Reft; of Retention and Excretion; and of the Poffions of the Mind.
- III. Of the Definitions, Diagnoficks, Prognoficks, and Curative Indications, both Medicinal and Dietetical. of Acute and Chronical Difeases incident to Human Bodies; with the Nature and Use of Bathing and Frictions.
- The whole illustrated with useful Annotations, methodically and fuccinctly digefted, and confirmed by the Authority of the most celebrated Authors, both Ancient and Modern.

### By BERNARD LYNCH, M.D.

Pugnandum tanquam contra Morbum, sic contra Senectutem. Cic. de Senectute.

Optima quæque dies miseris mortalibus ævi Prima fugit : Subeunt morbi, tristisque Senectus! wentia mortis.
Vire. Lib. III. George Et labor, & dure rapit inclementia mortis.

#### ONDO N:

Printed for the AUTHOR, and fold by Mrs. Cooper in Pater Nofter-Row; Mr. MEADOWS in Cornbill; Mr. HAWKINS near the Temple-Gate, Pleet-Street; Mr. NEEDHAM near Chancery-Lane End, Holborn; and at Mr. JACKSON's in St. James's-Street. 1744.



OT

# DAJOHN BEAUFORD.

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Experience of the design of the Opportunity of acknowledgeing the Obligations is the under to you.

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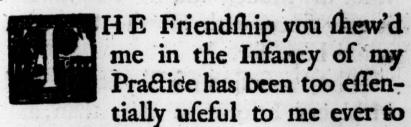




TO

# Dr. JOHN BEAUFORD.

SIR,



be forgotten; and it is with great Self-Satisfaction that I take this publick Opportunity of acknowledging the Obligations I lie under to you. My Interest in Town was not A 2 only

only strengthened and extended by but my Knowledge was enlarged by Thy Convene with you, and thy Practice was formed by my Oblervation

of yours.

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I carefully examined the Modus of Practice here, of the most Emil nent of the Profession, when I first came to Town, intending to hape my own with that which hould feem to me the most conformable to the Sentiments of the Great Hippocrates; and finding none more natural and uniform than Yours, I took it for my Model, and have continued it ever fince with all the Success I could hope for to be not nigo edt ai

The Profession of Physick is held in higher Esteem in this, than any other Country in Europe; and no wonder; because none can produce fo learned a Body of Physicians. But among that Body, more learned and skillful than any other in the World, floor and reform any fuch, and molt

DEDICATION

yel specification and extended by the specification of the representation of the policy of the policy of the policy of the policy of the Publickid but never by the policy of the Publickid but never by the Publi

Post of baye a natural Right to the Patronage of the following Work, being founded chiefly on your own Maxims, and originally begun that I might have a publick Opportunity of owning your Favours, and doing Justice to your Merit. How I have succeeded in the Choice and Contexture of my Subject, I submit to the Publick with the utmost Deference; but however I may have fail'd in the Opinion of other learned Men, I have too often experienced your Indulgence, not to flatter myself that you will view all Inaccuracy of Stile and Diction, and other as minute Imperfections, with your usual Candour and Good-nature. As for more capital Errors, I shall most readily own and reform any fuch, and most grategratefully thank any friendly Hand that shall be at the Pains of pointing them out to me. I am, with the greatest Sincerity,

HERRE a Title-Page is fo express five of the Corner of a Book as the foregoing, a Frence might feem unacceffery; and I should son his more obliged haids ed blood Tour of the state of most of the third the state of the stat Liddlebor of this inodein I year, it with infornzinavred elden dies that the fole End of my Labour was ed inform the Uninform'd, Stanbope-Areet, so stright do it force as bas.

The form fach a judgment of 1744. The sound of garden fach as thousand prevent their reactions. themselves in a worse State of Elealth than HONY DANNER after every Empirick, who pretends to the Knowledge of Catholicons, or universal Remedies. Thate are the Bane of all Societies; and the Quacks are soon detected, yet as the Buccellique of them is to very constant and rapid, the Commonalty for the most part, see not the Injury done to them, nor the Wrong they fuffer. This is a Misfortune to be langeated, dut difficult to be removed, while Man is prejudic'd





HERE a Title-Page is so expressive of the Contents of a Book as the foregoing, a Presace might seem unnecessary; and I should think it so, if Custom did not

feem to exact that a Bill of Fare should be ferv'd up to the Company before they fat down to Table. To comply then with the Humour of this modern Tyrant, I must inform the courteous Reader, that the fole End of my Labour was to inform the Uninform'd, and to erect fuch Lights as might help them to form such a Judgment of their own Constitutions, as should prevent their fancying themselves in a worse State of Health than they are, and running after every Empirick, who pretends to the Knowledge of Catholicons, or universal Remedies. These are the Bane of all Societies; and tho' Quacks are foon detected, yet as the Succession of them is fo very constant and rapid, the Commonalty for the most part, see not the Injury done to them, nor the Wrong they suffer. is a Misfortune to be lamented, but difficult to be removed, whilst Man is prejudic'd

in Favour of Novelty, and in Disfavour of the Regular Phylician, who can restord to bellow the Fruits of his hard Labours on the

Public promiscuoully.

There is one Thing in the following Sheets which the Author owns to have labour d more than any Part of his Subject, which is the Doctrine of Non-naturals, the Knowledge of which, he thinks, no reasonable Man, who values his own Health should be ignorant of; and which he prefumes to fay, has been more obscurely treated heretofore, than it ought to have been, or indeed he believes it was de-

fign'd'it should be.

In treating of acute and chronical Difeates, there are general Remedies, but except in one or two Occasions, such as the Bite of a mad Dog, and some Consumptions, there are no formal Recipes, which, it is found by Expetience, are generally productive of more Evil than Good. For the general ignorance, I may fay infatuation, is such, that the Vulgar too offen make material Miftakes in the Preparation of the most plain and simple Recipes. Befides, that as the Nature of Difeases and Constitutions is fo various and different, not to mention the Climate, Air, Seafon, Age, and a thousand other differing Circumstances, it would be too prefurning for the Au-thor to take upon that to prescribe for every particular Distemper. He would not do so great a Wrong to the Illiterate, nor, to use the learned Boerhauve's Words, Would do

The PREFACE.

MIN.

nervus being so prejudicial to the noble and generous being of Phylick, or expert to Kenproach, as they must inevitably do, who pretend to adapt a particular Remedy to general Disease.

Having mention d the ever-famous and tobe-rever d Buerbaave, the Address takes with
Opportunity of owning his Obligations to him,
not only in his Practice, but in this Work
particularly. He has all along kept that
Cress Man in his View, nor has he been unmindful or neglected any other eminent Water in Physick, either ancient or modern, he
has frequently quoted their Words, and always endeavour'd to conform himself to the
Sentiments of the most approv'd Audients.
And that his Grantede to all such great then
as well as Justice may be seen, he has annex'd a Catalogue of such Authors as he owns
himself indebted to in the Compilation of
the following Treatile, thinking the Method
more orderly and eligible than a constant
Quotation.



# A LIST of the AUTHORS.

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Of the different Degrees and Stages of Man's Life ; with a Description and Definition of unders ent fome remarkable Change in every fish Acto wherea the feventh Year was call'd ori

Sour Bodies are Subject to Changes and Alterations, from the Minus we come into the World ; fo the Physicians, regarding the most ap-

parent and sensible Changes only; have divided Man's whole Life into several Periods, which

they

The Pythagoreans, who were very super-stitious in the Doctrine of Numbers, have published in their Writings, that we undergo remarkable Changes every seven Years, as well in regard to the Temperature of the Body, as the Qualities of the Soul; all which must be referred to the Excellency and Perfection of the Number Seven.

But I will not enter into Disquisitions upon Numbers in this Place; it is enough for me to have the Concurrence of all the most celebrated Authors, that Man, according to the natural Course of Life, undergoes five remarkable Changes in his \* Temperament, and passes five Ages or Periods; that is, Infancy, Adolescency, Youth, Manhood, and Old Age.

Infancy is hot and moist; but the Moisture is predominant, and keeps the Heat in such Subjection, that it can no way shew its Effects.

Persons, whereby it is apt to fall into some certain Combinations more in one Body than another, whether into Sanguine, Choler, Phlegm, or Melancholy; from whence Persons are said to be of a fanguine, cholerick, phlegmatick, or melancholy Temperament or Constitution. Of all which I shall speak more at large hereafter.



<sup>†</sup> Septenarius, or Septennium, containing the Space of seven Years. Some of the Antients reckon'd every Constitution underwent some remarkable Change in every such Revolution, whence the seventh Year was call'd critical, or climaterick Year.

Part I. thro' the various Stages of Life. It continues to the thirteenth or fourteenth.

Adolescency follows, which is likewise hot and moift, but the Heat begins to be predominant i for we see its Sparks shine and lighten

every where it it is his bloo yrov yllaranag m In Males the Voice then begins to grow loud and hoarse; they spread and dilate every way, and cast their first Dozons. In Females the Breasts grow visibly harder and larger, the Blood is in Motion thro' the whole Body, and pushes on all Sides till it finds Passage. This Period extends to the Age of four or five and twenty, which is the Term limited by Nature for Growth.

This is fucceeded by Youth, which is full of Heat, Vigour, and Agility: It runs to thirtyfive or forty. In this Age the Body comes to its full State, and the Fibres, Membranes, and Bones to their due Solidity. This is what is call'd Manhood, and is the most temperate of all the Ages of Man, participating of the four Extremes equally, and extending to the fiftieth Year; where Old Age begins, which comprifes the Remainder of our Lives bas anisq

Now this last Period of Man's Life may be divided into three Stages; but I pass over that which is call'd Sonium ex morbo, that is, Old

Age brought on by Sickness 199 flat aid

The first is call'd Verdant: It is accompanied with Prudence, and is full of Experience, and fit for governing Commonwealths, and managing Affairs of Importance. The fe-

A Guide to HEALTH Part I. cond begins at Seventy, and is attended with several little Ailments, and is cold and dry. As to the first, there are such apparent Marks of it, that none ever doubted it; for if we touch old Men of those Years, we shall find them generally very cold in all their Muscles; they have no lively or Vermillion Colour; all their Senfes are weaken'd, and they are subject to a great many cold Diffempers: But as to the other Quality, Dryness, some have endeayour'd to dispute it, saying that this Period is moift, but not dry. To this Galen replies, in his first Book de Sanitate Tuenda, that old Men have all those Parts dry which are moist in Children; that is, the folid Parts, upon which the whole Constitution depends. This is even the Opinion of the Moderns, and what we thould follow; for Leanness, Wrinkles, Hardness of the Nerves and Skin, the Stiffness of the Joints, are sufficient Demonstrations of this dry Temperament at that Age. 'At length comes the last Step of Old Age, and is call'd Decrepit; in which, according to the Royal Prophet, there is nothing but Pains and Grief, for all the Faculties of the Soul and Body are weaken'd, the Sentiments ment defective. The Memory loft, the Judg-

This last Period of Old Age is described in the twelfth Chapter of Ecclesiastes, under so beautiful an Allegory, that nothing can excel it; and as the Royal Author was the greatest Philosopher and Naturalist that ever wrote, I will

Part I. thro the various Stages of Life. will therefore present the Reader with his Description of this Stage of Life at large. which, besides its Beauty, will likewise serve us for Instruction and Counsel.

which have been given to Man for the Defence Remember, lays he, thy Creator in the Days of thy Youth, while the Sun, on the Light, or the Moon, or the Stars be not darkened, non

the Clouds return after the Rain.

In the Day when the Keepers of the House shall tremble, and the strong Men shall bow themselves, and the Grinders cease, because they are few; and those that look out of Windows be darkened, and the Doors shall be shut in the Streets, when the Sound of the Grinding is low, and be shall rise up at the Voice of the Bird, and all the Daughters of Mufick shall bestrought low. will all disider ordit dans

And when they Shall be afraid of that which is high, and Fears shall be in the way, and the Almond-tree shall flourish, and the Grashopper shall be a Burden, and Defire Shall fail, because Man goeth to bis long bome, and the Mourners

go about the Streets.

Then Shall the Duft return to the Earth as it was: and the Spirit shall return to God that gave it in the about of the

which are (woln. &c. This is the Description of the last Stage of Man's Life, which is admirable. In decrepit old Age, the Sun and the Stars are darken'd; that is, the Eyes of Man, which are grown dimog nor the Clouds return after the Rain; -UPSI that

A 3

that is, after they have been weeping a long time, they feem to have thick Clouds before their Eyes. The Keepers of the House shall tremble; that fignifies the Hands and Arms, which have been given to Man for the Defence of his whole Body. And the strong Men shall bow themselves; that is, the Legs, which are the Columns that support the whole Building. And the Grinders cease; that is, the Teeth, which grind and chew the Aliments. And those that look out of the Windows be darken'd; that is, the Eyes, which are troubled with Cataracts, and feveral other Disorders incident to the Sight of decrepit old People. And the Door Shall be Shut in the Streets, when the Sound of the Grinding is low; those are the Chops, which cannot open to chew, or the Canals thro' which the Aliment us'd to pass, but are now grown straight and narrow. And be shall rife up at the Voice of the Bird; that is, decrepit old People cannot fleep, and are always awaken'd by the Cock's Crowing. And all the Daughters of Mufick shall be brought low; that is, their Voice, which fails them. And the Almond-tree Shall flourish; that is, the Head, which is all white. And the Grashopper shall be a Burden; that is, the Legs, which are swoln, &c.

Having now describ'd the Ages terminated by Years, I would not however be so far confin'd to the usual Number into which Man's Life is divided, as if Youth and Old Age must intirely depend upon it: We ought rather to Part I. thro the various Stages of Life. 7 regulate ourselves by the \* Temperament, or Nature of our Constitution: for we may call every Man that is cold and dry, an old Man; there are a great many such at forty, and a great number of young Men at sixty. Some Complexions fail sooner, and others later.

The fanguine are of long Duration, because they have a deal of Heat and Moisture, which Constitution or Temper is most commodious to Mankind, and qualifies them best for Action, and is therefore most consistent with Health and long Life; whereas the contrary Temper, viz. cold and dry, foon tends to Decay and Death: for the sooner a Body withers and dries away, the fooner it grows old, and draws near its Diffolution. This Heat and Moisture hath also its several Degrees, but these Qualities are best when moderate those which differ and recede from that Mediocrity, are called bot and moist, bot and dry, or cold and moift, and cold and dry, tho' all in general are hot and moist in some Degree.

These differences of Tempers are commonly distinguish'd by the Denominations, which I have observed already, of Sanguine, Choleric, Phlegmatic, and Melancholic Constitutions, according to the Nature and Disposition of the Juices in the several Bodies, where the excrementitious Discharges answer thereto. They whose Blood is of a moderate Temper, between hot and moist, are called sanguine; those who exceed in heat,

Temperament, See Pag. 2. Note \*

As to what regards the Sexes, the Female, generally speaking, grows old fooner than the Male, which Hippocrates juffly obferves, in his Book concerning those Children who are born at the End of the feventh Month. The Females, fays he, are later in forming and growing in the Womb than the Males; but when they are out of it, they grow faster, bave earlier Understanding, and are fooner old, on account of the weakness of their Bodies, and their manner of living. Weakness hastens their Growth, and brings them likewise sooner to old Age; for as the Plants which are short-liv'd grow in a few Minutes, fo the Bodies which have no dong Duration, foon come to their Perfection. Their manner of living likewife contributes very much to their growing old foon, as they most commonly lead an unactive life; for nothing brings us fooner to old Age than Choleric, Phegmetic, and alehalbi bhe doll

As to the different Tempers and Constitutions of Men, they depend, in a great meafure, not only upon the various Dispositions of the Humouts contain doin the Body, but also on the peculiar Conformation, and Structure of the noble Parts, and their various Proportions in respect to each other, which

Part I thre the various Stages of Life. 9 disposes them to breed Humours of different Kinds and Dispositions; and endows them with warious Qualities, according to the feveral Alterations they undergo in different Bodies, and the Proportion of fuch animal Fluids differently fermented, exceeding or falling thort in Degrees of Digestion ; or being variously vitiated by the affimilating Qualities of Humours already contain'd, or of fresh Food taken into the Body, which may pervert the Disposition of the Phuids al-

ready contain'd in the Blood Veffels.

The Proportion of the Parts of the Body, and their Conformation, may contribute to the difference of Constitution, as they separate and discharge Humours, not only differently prepar'd, but in greater or less Quantities: Thus, if the Heart be larger in Proportion to the Body than the rest of the Parts, the Blood must circulate more briskly, and with greater Force; if the Liver be large, and separate a great Quantity of Bile, the Chyle and Blood must be more bilious; and as the Stomach digests differently, the Blood must be supplied with Nourishment in greater or less Quantities, more or less digested and so occasion Sanguine, Choleric, or Phlegmatic Constitutions. Thus the noble Parts contribute to the different Temper of the whole, as well as other particular Parts of themselves.

ano Hence it is that different Parts of the Body are, in respect of one another, esteem'd

10 A GUIDE to HEALTH Part I. to be of different Tempers; as the Heart, upon account of its Situation and constant Motion, may be reckon'd one of the hottest Parts of the Body. The others reckon'd of a hot Temper, are the Liver, the musculous Flesh, the Spleen, the Kidneys, Lungs, Veins, Arteries, and Fat. The cold Parts are, the Bones, Cartilages, Ligaments, Tendons, Nerves, Membranes, Spinal Marrow, and the Brain. Those which are accounted moist, are the Fat, Marrow, Brain, Breafts, Testicles, Lungs, Spleen, Kidneys, musculous Flesh, Tongue, Heart, and the fofter Nerves. The dry Parts are, Bones, Cartilages, Ligaments, Tendons, Membranes, Arteries, Veins, and hard Nerves.

There is moreover another difference in the Tempers or Constitutions of human Bodies, in respect of Age and Sexes; thus Women are naturally colder than Men, too much Heat being supposed apt to consume and vitiate the tender Nourishment of Infants, which is to be prepar'd in the Mother. Age likewise alters Constitutions, according to the several Stages and Periods, as I have observ'd before; thus Infants and Children are hot and moist, Youth more temperate, Men and full-grown Persons hot and dry; whereas in old Age the Heat decreases, and Nourishment is dry'd up for want of its usual Supplies.

Another thing that makes Constitutions differ, is the difference of Climates, the manner

Part I. thro the various Stages of Life. 11 manner of living, the nature of the Food they use, and the Liquors wherewith the more solid Parts of the Food are diluted; but for a more particular Account of different Constitutions, see Part II. Chap. IX. where I treat of the Diet proper for each respe-

ctively.

Having hitherto given the Reader an Account of the different Degrees and Changes of Age, as likewise a Description of decrepit old Age, supported by the Authority of the wise Solomon; and lastly, of the Causes and Nature of different Constitutions, I shall now finish this Chapter with the Definition of it, which will be of singular Use to such as will observe the Precepts hereafter mention'd, in order to preserve Health and long Life.

The incomparable Sanctorius, most elegantly and concisely defining old Age, says in Aphorism xxxv. Sect. v. Senectus est univerfalis sibrarum durities, &c. that is, old Age is an universal Hardness of the Fibres, &c. which implies, that when there is a greater Waste of the nervous Fluid than can be repaired, then the component Machinula of all the Fibres of the human Body, for want of a Sufficiency of this animal Oil or Fluid, are harden'd and dry'd, the Pores are thereby straiten'd

Machinulæ fignifies in Anatomy, the various Textures, Combinations and Decuffations of the Fibres, compounding the Muscles, Nerves, and Membranes of the Body; which is only a Diminutive from the Word Machine.

A Guipe to HEALTHON Part I ftraiten'd and obstructed, by which means the natural Heat is stifled, and at last Death enfues; hence it is, that the nearer a Person is brought to this State of an univerfal Hard nefs of the Fibres, &c. by any means whatever the farther fuch a Person may be faid

to be advanc'd towards old Age.

- Wherefore the great Secret and fole Methad of long Life, is to preferve the Blood and Juices in a due State of Fluidity and Thinness; whereby they may be capable of making all those Circulations and Rounds thro' the animal Fibres, wherein Health and Life confift, with the fewest Rubs, and least Refistance that can be. But notwithstanding all our Efforts, Time and old Age will stiffen and fix four Solids at last; for Age and Time, by weakening the Appetite and Concoctions, impairing the natural Heat, which confifts in a brisk and extended Circulation of the Fluids to all the Pants of the Body, by the converting those Juices into folid w Substances, and thereby fixing and hardening these Solids, and depriving them of their due Elasticity; so the remaining Fluids circulate flower, and with defs Force, and feldom reach the Extremities and smallest Veffels, but lonly pass slowly through the larger Veffels: And tho' with all these unavoidable Circumstances, both the nutritious Juices, the ferous and globular Part of the Blood become viscid, thick, and gluey, so that the Circulation must stop, and come to an end at last; yet it is certainly in a great measure

Part I. thro the various Stages of Life. 13 in our own Power to put a Stop to the the quick Approaches of fuch an irremediable Period, by keeping our Junces in a due state of Fluidity and Thinnels, and to render them fuch, if they are not corrupted to an extreme Degree, for that the remainder of Life be not too fliott to undertake lifely a Work, for it is very certain, that we may dilute and thin any Pluid, that has an Inter and Outlet. And the finaller and finer the Parts of any circulating Liquor are, the lefs Force at will require to fet it a going, and to continue its Motion: And it is just even to in affilial Bodies; for the more fluid and thinner the Julices are, they will not only circulate with lefs Force, and with lefs Relifiance or Pain, but they will likewife preferve, by their Circulation, the Solids the longer from hardening and fuffening.

Now, as nothing brings a Person somer to that State of universal Hardness and Stiffness of the Fibres, and a Viscosity and Thickness of the Juices, than indulging in strong high Meats, which the concective Powers earliest divide small enough to be converted into red Globules of Blood, or circulate thro the small Vessels, but overload them with corrolive urinous Salts, which run into Clusters, and first obstruct, and afterwards tear and break these small Vessels, and likewise in swilling of strong Liquors, which by their caustick Quality dry up, burn, and destroy the tender and delicate Fibres of the Solids;

therefore

A GUIDE to HEALTH Part I. therefore I fay, as nothing but fuch an Indulgence, and fuch long-continued Excesses, and obstinately persisted in, can so soon produce fuch a State of the Fluids and Solids, and confequently bring on many fatal chronical Diseases, according to the particular Habit, Make, and Constitution of the Person: So it is evident, that the only Method and most effectual means that can folidly and thoroughly accomplish the contrary State of the Blood and Juices, is to render them thin, sweet, and in a continual flowing Condition, by taking the contrary Measures, in keeping to a frict Regimen of a fluid, thin, spare, plain, and lean Diet; for as Dr. Cheyne justly observes, No voluptuous and lazy Person, unless be bad an original Constitution of BRASS; ever liv'd to a great Age; and even then, as his Life has been more Mifery and Pain, than ever a SOBER GALLY-SLAVE endur'd. bis End, and the latter Part of bis Days bas been RACK and TORTURE, HORROR and DESPAIR. So that Longavity is scarce ever found but among the abstemious.

As all the Parts of the human Body are made up of Fibres, which are small, transparent, solid, and elastick, or springy Threads or Filaments, of which mention is made in the foregoing Definition of old Age, and which have been sufficiently demonstrated by Physicians and Anatomists already; yet it will not be improper to give some Account of them here, for the sake of as many of the English Readers

Part I. thro' the various Stages of Life. 15. Readers as may be unacquainted with either Physick or Anatomy, and for whose Benefit I

have chiefly compiled this Treatife.

Therefore these Fibres, or small Threads, that constitute the human Body, are of different Sorts; some are soft, flexible, and a little elastick t, and these are hollow like small Pipes, or spongious, and full of little Cells, as the nervous and fleshy Fibres. There are others more folid and flexible, but with a strong Elasticity, as the membranous and cartilaginous Fibres; and a third Sort hard and inflexible, as the Fibres of the Bones. And of all these some are very sensible, as those of the Nerves, Blood-vessels, Membranes, Tendons, and Muscles; and others are destitute of all Senfe, as those of the Bones; some fo very small as not to be easily perceived; and others, on the contrary, so big as to be plainly seen; but most of them, when examin'd with a Microscope, appear to be composed of Aill smaller Fibres, and may be divided still into less; and indeed this Division proceeds so far, that at last they become so incredibly finall as to exceed all the Power of Imagination; But Reason will shew us, there must be sard ourfelves against some of them, bna as

Now these simple Fibres do first constitute the Substance of the Bones, Cartilages, Ligaments,

<sup>\*</sup> Elaftick or springy, signifies a Force in Bodies, by which they endeavour to restore themselves to the Posture from whence they were displaced by any external Force.

ments, Membranes, Nerves, Veins, Arteries, and Mufeles. And again, by the various Texture and different Combinations of fome, of all these Parts, the more compound Organs are fram d, such as the Lungs, Stomach, Liber, Legs, and Arms, the Sum of all which makes the human Body.

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The principal and inevitable Causes of OLD

AGE, and of our Dissolution.

Shall shew in this Chapter, with what has been already said, such things as alter our Bodies, and whatever makes them grow old, and brings us at last to our Dissolution.

The Causes, then, of the Alterations of our Bodies, and likewise of our Dissolution, are either external or internal. These last are born with us, and always attend us, even to the Grave: The others come from without us, surround us on all sides, and, tho, we can guard ourselves against some of them, there is however an infinite Number of them which we cannot escape.

The internal Causes which come into the World with us, are two, viz. the Contrariety of the Principles of which our Bodies are composed, and the Animal Actions or Func-

tions of the human Body.

Ch. II. thro' the various Stages of Life. 17

The Principles of our Composition are, 1. A Water or Phlegm. 2. A volatile Fluid or Spirit. 3. A faline Matter or Salt, both volatile and fix'd. 4. A fat Substance or Oil, otherwise call'd Sulphur. 5. An Earth, or Caput Mortuum. But the Spirit being only a Mixture of Phlegm and Salt, these five may

be properly reduced to four +.

The Animal Actions, or Functions, which happen in all the Parts of human Bodies, by the Motion of the Humours in their distinct Vessels, and the Essects they have upon one another, are distinguish'd into vital, natural, and animal. Those call'd vital so much conduce to preserve Life, that they are of absolute Necessity; as the muscular Action of the Heart, the secretory Action of the Brain, that of the Lungs, and of the Blood and Spirits, with their Motions thro' their proper Organs; and also the Veins, Arteries, and Nerves.

The Natural Actions are those that so alter our Aliment, as that it may become Part of our Substance; and such are the Actions of the Bowels, Vessels, and Humours that receive, retain, move, change, mix, separate, apply,

discharge, and consume.

The Animal Functions are such as, when perform'd, the Understanding conceives Ideas of Things, united to that Action; or the Will is either concern'd in exciting such Actions, or mov'd by them when excited: Such are

<sup>+</sup> Boerhaave Institutiones Medic. de Natura & Part. Sarg.

the Touch, Taste, Smell, Sight, Hearing, Perception, Imagination, Memory, Judgment, Reason, Passions of the Mind, and voluntary Motions. From hence we may know, that Health is such a Disposition of the Body as sits it to exercise all its Actions, and that all the Effects of those Actions respect determinate Motions, and the Change made in our Aliment.

The Principles of our Composition just now mention'd, being duly distributed thro' the whole Body, may be call'd an Equilibrium between the Solids and Fluids of a Person in Health; or, which is the same thing, an exact Ballance of Contrarieties, making a kind of Agreement or Harmony amongst themselves, in order to mix and unite; wherein each of them quits something of its Sovereignty, and reduces itself to a Mediocrity, which is call'd Temperament. But this Alliance is of short Duration; for the Body, by the Actions infeparable from Life, suffers such a gradual Change, that the fmallest Vessels become stiff, and imminutest grow together into Fibres, unfit for the Humours to pass thro' them; the greater Vessels become hard and narrow, and all are contracted, and, being compress'd, grow together, which occasions Dryness, and Unaptness to Motion in old People. By this means the Actions of the small Vessels are destroy'd, and the Humours stagnate and grow thick in them, and the Fibres adhere together: Thus the most subtile Parts of the Tuices

Juices are wanting and diffipated, Digestion is weaken'd, Nourishment is deficient, and the grosser Humours only circulate thro' the large Vessels slowly, and support Life alone, without the Animal Actions, till at last these Changes bring on Death from Old Age, the Successor of perfect Health; which happens sooner if the Actions of Life have been violent, but later if moderate; and this is one of the Causes of our Dissolution: It is inevitable, and we bring it with us from the Womb. But, in order to make this more evidently appear, it is necessary to consider the following Particulars concerning Nutrition, Growth,

As there is an Aptness to Motion requisite in the Vessels, Muscles, and Fibres of the human Body, in order to enable it to make due Use of all the Motions of its Humours, Vessels, and Muscles, without Detriment thereunto: So, for this Purpose, the Parts which are coherent, should be partly free from Contact, and partly remain in it, which cannot be, unless the greater Parts consist of the smallest, thinest, and shortest ones; nor will that happen again, unless a renovating Humour passes continually betwixt them, to hinder their growing together; therefore, as the whole human Body is slexile, and subject to Changes from Contact, of Necessity it ought

and Decrease of the Body.

But this very Motion, being continually and violently perform'd, in Vessels of such a

B 2 tender

tender Fabrick, the least Parts must of necessity be thereby worn off from the Solids; and thence, being mix'd with the Liquids, be mov'd round by the perpetual Circulation of the Juices, as well as by the Action of the Muscles, and exhale. In the mean while the Fluids, being ground small by the continual Attrition of their Parts, and drove to the Vessels thro' which they exhale or transpire, are quite excluded out of the Body; and thus the Animal Body, from the very Condition of its Frame, is soon destroy'd.

Therefore it is requisite, for the due Continuance of Life, that as much Matter, and of the same Kind, should be continually restored to the Humours and solid Parts, as was lost by those Motions, which Action is call'd

Nutrition.

The Humours that are worn away, are again supplied, as to their Matter, by Air, Meat, and Drink. As to the Qualities requir'd, those are produced by the concurring Assistance of all the Parts of the Body, and by means thereof applied to the Vessels where

they are wanting.

Every solid Part of the Body is composed of other less Solids, very like the greater; the Vessels, of smaller Vessels; and the Bones, of smaller Bones. And this manner of Structure proceeds beyond all the Limits of Sense, as fisted by what Art soever, as Malpighi, Ruysche, Leeuwenhoeck, and Hook, have demonstrated by accurate Experiments; yet this Divi-

Ch. II. the the various Stages of Life. 21 Division scarce seems to proceed ad Infinitum, as appears by the Nature of the Nourishment

and Fluids themselves.

Moreover Microscopes, Injections, the least imaginable Wounds, Vesicatories, Consumptions, and the withering away of the Body, inform us, that our folid Parts, in respect of the Humours, are but very small; for it is almost demonstrable, from the Consideration of the Rise and Generation of the Vessels, and the Resolution of the greater Canals into their least constituent Parts, that the whole solid Mass of our Bodies is almost wholly composed of mere Nerves, considered in their primary

Composition and Communication.

And truly all that Mass, except an incredible small Particle, at first grew together, stom those which were before the most subtile Liquid of the Colliquamentum or Fluid, almost all which goes to compound the Body, being much like the nervous Fluid, according to Malpighi; for the White of an Egg does not nourish, before it has been long brooded upon, till that thick clammy Humour has pass'd thro' a vast many Degrees of Fluidity, by several Changes, to fit it at last for the Purposes required; but even then, when it comes to supply the Embryo, it is very thick, and must be much more subtilized in its Vessels and Bowels.

The first tender solid Parts being made out of this most subtile Humour, which are then almost sluid, they pass again thro' a vast many

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diffe.

different Degrees of Solidity, before they arrive at the Perfection of folid Parts; as appears from Malpigbi's Experiments upon Eggs, and the incomparable Ruysche's upon Embryos and Fætuses, and even from the different Parts themselves.

Hence it appears, that the folid Parts, in their first Origin, differ only from Liquids, whence they spring, by Rest, Cohesion, and their Figure; therefore fuch a Particle, while fluid, will become Part of Solid, to be form'd thereof, as foon as the Power that causes it to cohere with the other folid Parts, shall act, by what means foever it be,

This Cohesion of the Parts is best produc'd in a Fibre already form'd, if there be a sufficient Place in the Solid, left by that Particle which was loft, and at the same time, another Particle in the Fluid of equal Bulk, Figure and Nature, and endow'd with fufficient Force to thrust it in, or fit it to that

Place.

Therefore there will be a true Nutrition of the Solids in the smallest Vessels, which, by Addition, become greater; that is, in the Nerves or Veffels like them; which, fince it cannot be perform'd without a Liquid be brought into those Vessels, seems very plain, that the most immediate matter of Nourishment is the most subtle, nervous Fluid, or some other like it; and therefore appears to be perform'd and produc'd from the last and most refin'd Actions of Nature; and that it may

Ch. II. thro the various Stages of Life. 23 may be well perform'd, all the preceding

Actions ought to be perfect.

The Chyle therefore may fill the greater Vessels, but cannot recruit the solid Parts; but being attenuated, alter'd, rarefied, mix'd, and made fit to pass thro' some Vessels, by the force of Respiration in the Lungs, it is render'd the more proper indeed, but still not

fit Matter for this Purpole.

However, by the repeated Effects of the Lungs, Bowels, and Vessels, it becomes a white, tenacious, forming Liquor, almost without Smell, thickens by the Heat of the Fire, or in Spirit of Wine; being then like the White of an Egg, and called Serum; and therefore is such a Fluid, as has all the requifites which ought to be in that Humour; whereof Experience teaches us, that all the folid Parts of an animal Body are constantly made or form'd, only by Incubation, or a constant Heat and Digestion. Thus then the Matter is brought a Degree nearer, but yet is not quite fit for Nutrition; much less is red Blood, which never enters the finallest Vessels.

But as the Heat of Incubation, so the Action of the Viscera and Vessels, occasions divers Changes on this circulating Serum, till Part of it is turn'd into such a subtle Humour as is here requir'd; and being consumed, it is again supplied, and this at length becomes the true and immediate Matter of Nourishment; which, how simple it is, how insipid,

B 4

or without Smell, will appear from the Fire, Putrefaction, or the Art of Chymistry, for it leaves behind but a pure and exceedingly

light Earth.

Nor can this Matter be prepar'd, without undergoing the foremention'd Alterations: But the fame Humour may, by too often and repeated turns of Circulation, grow sharper, or lose its Liquidity, and become thick; being drain'd of its oily Parts, and render'd pungent by Salts, and then it is unfit for this Use; which may, perhaps, be partly difcharg'd by Perspiration, and partly by Urine. Therefore there is a necessity of new Chyle, and confequently of Aliment, to supply this Nourishment. As to the Manner how, and the Caufe why Nutrition is perform'd, that will appear from what follows.

The Humour being forced forwards, thro' a full, conical, cylindrical, elastic, or stiff and rigid Tube, if it flows from a broad Part into an narrower, or with a Relistance against its Motion, it will endeavour to extend the Sides of the Canal, according to its longer Axis; and this happens all over the Body, except in the Veins, and the Cavity of the Receptacles. And by this Force, tho' fmall, being constant and repeated, the Vessels will by Degrees, and infenfibly be lengthen'd; and by growing longer, will become thinner, and foon be more and more attenuated: By this means, the utmost Extremities of the Vessels, which are smallest, will be less coherent, and

next

Ch. II. thro' the various Stages of Life. 25 next to a State of Dissolution. And thus the Extremities of the Vessels will be render'd much finer and weaker, and little different from Fluids.

Whilst therefore this Motion perpetually proceeds in a continual Propulsion, it must necessarily happen, that the last Particles of these very sine Tubes being worn away, will again put on the form of a Liquid, in whatever Part of the Body they remain; and then the smallest Parts, which compose the finest Fibres, by their Union will be so mutually separated from one another, as to leave small Intervals in those Places where they before grew together; and this will constantly happen every where, as long as Life continues, especially where it is strong, and the Action of the Body violent.

But the same Humour wherein all this happens, contains a great many such Particles as were separated or lost, which it carries, applies, and adapts to these very Intervals, with that very Force with which it endeavours to break the Vessels, and then fixes, fits and sastens those intercepted Particles in these Cavities; so that they grow together as the former: for the Matter, the Preparation and Application thereof, with the Force of Motion, will always continue the same; and therefore what is lost will be easily restor'd, and so the solid Parts remain as they were, that is, they are nourish'd and preserv'd continually.

And

And this shews the wonderful Wisdom of our Maker, that the same Cause which inevitably destroys, shall also at the same time repair the Structure of our Frame; and that too according to this Rule, that the greater the Loss, the larger shall be the Supply; and that those Parts, which by the Actions of the Body are first worn, are always the first supblied, at least kin to rear put no rear a

It is plain then, that the more tender those Vessels are, the newer, and the nearer to the moving Cause, so much the easier they are ftretch'd, distended, destroy'd, and renew'd; and consequently, the nearer our Bodies are to their Origin, the more they

grow and increase. The harm product of the

Whilst this Action goes forwards, the greater Vessels are more distended by the Liquor they contain; but at the same time, the fmall Veffels, which being interwoven, compose the Membranes of the greater, are more compressed, dried, and grow nearer together, which adds Strength to the Fibres, at the Expence of vascular Property; so that in time our Vessels turn to hard Ligaments, and the Humours become firm and folid. By a Concurrence of these Causes, the Solids become strong, hard, stiff and thick. Therefore the vast number of Vessels that are in an Embryo, gradually decrease as Age comes on; and for the same reason, on the other hand, as Weakness decreases, Strength increases; and so in young Persons, the Quantity and Vigour Ch. II. thro the various Stages of Life. 27

Vigour of the Humours exceed that of the Solids; but in old People, the Solids in Quantity and Strength exceed the Liquids; from whence plainly appears the manner of the Increase, Decrease, and Death of the Body, merely from old Age, with the Causes

and different Appearances thereof.

Whoever therefore confiders this whole Account, and then compares these Accidents which happen to the Body therewith, will clearly perceive this to be the State of the Case; for the whole Cuticle every where perpetually scales off, perishes, and renews again; the Hair, Nails, Teeth, shav'd, par'd, cut off or wore, grow afresh; and Parts of the Vessels and Bones taken away, in a short time return on every fide; and if the Filth in the Extremities of the Veffels throughout the whole Body, that is either worn off, or collected there by Exhalation, be view'd in Water with a Microscope, after being evaporated or diluted, it appears to confid of Solids and Fluids; and the same when obtain'd by Washing, Rubbing, or Abrasion, exhibit the like Appearance.

From hence appears the Reason why the Fabric of our Solids is not dissolved by the liquid Contents; and why our Machine continues so long fit for Motion; why, when the Nerves are by any means corrupted, the Part to which they lead, loses its Nourishment; why in an Embryo there are no Solids, in a Fatus sew, and in very old People

a vast many; so that even the Nerves, Tendons, Arteries, and Receptacles in those, first

become cartilaginous, and then bony.

It is therefore evident from the foregoing Particulars, that the two internal Causes of our Dissolution already mention'd, viz. The Contrariety of the Principles of our Fabric, and the animal Actions or Functions of the buman Body, are born, grow, and are nou-rish'd with us, and that, gradually and inevitably, they bring on Old Age, and destroy the Body at last: nor can all the Physicians in the World guard us against them; for the great Promifes made with Affurance, as to the Prolongation of Life for to many hundreds of Years, are vain and imaginary, being unsupported both by Reason and Experience: Of this Tribe are Van Helmont's Primum Ens, Paracellus's Elixir Proprietatis; the Primum Ens of Animals; all those precious Liquors, that potable Gold, those Conserves of Rubies, Emeralds, Elixirs of Life; that fabulous Fountain, that was reported to make People grow young, cannot hinder us from Decay and Old Age. Nor is it likely that Life should be prolong'd even by the best Methods in Nature, so many Years as the Chymists pretend by their Art; but their own Experience is a Proof of their Temerity and Inability herein.

There are other Caufes of our Diffolution, which are external, and likewife inevitable; for as our Bodies confift of three diffipable

Ch. II. thro' the various Stages of Life. 29 Substances, one of which is subtile and airy, the second liquid, and the third solid; so we must necessarily have something that proceeds from without us, in order to repair them, otherwise our Lives could subsist but a few Minutes.

That which repairs our Substance is called Aliment, and is threefold, Air, Meat, and Drink; the first nourishes the spirituous Substance, the second the Liquid, and the third the folid Substance. But this triple Aliment, the' never so pure, has yet always fomething unlike our Nature, which can never be affimilated to either our Juices or Solids, which must then become excrementitious; and where an Excrement is generated, and being detain'd in the Body, confequently alters it, and causes an infinite number of Diseases; by which means our Bodies are variously chang'd and affected, and often finally brought to an intire Diffolution.

I pass over all the other external Causes, such as too violent Exercises, an unactive and sedentary Life, long and continual Watchings, those Passions of the Mind which are most capable of making us grow old, as Fear and Sadness, &c. I say nothing likewise of all accidental Causes, such as Wounds, Fractures, &c. I have only endeavour'd to demonstrate, that the living Creature must necessarily grow old and decay; that he nourishes the natural Causes of Death in himself, and that there

are

30 A GUIDE to HEALTH Part I. are likewise some external ones, which are inevitable.

I thought proper to insert in this Place a Chronological and Historical succinct Account of long Lives, from before the Flood down to the present time; with a true and short Character or Elogy of each, faithfully collected from the Records of both sacred and profane History; which perhaps, may prove useful as well as entertaining to the Reader.

Herein he will observe, not only the Necessity of Temperance towards attaining long Life, but that the length of Life by the running on of Ages, or Succession of Generations, has not in the least abated, from the Time of Moses to our present Days; for the Term of Man's Life has stood near about fourscore Years of Age ever since, as will appear by the following Account.



## CHAP. III.

An Historical Account of Long Lives from the Creation to the present Time.

BEFORE the Flood, Men liv'd many hundred Years, as the Holy Scriptures relate; yet none of the Fathers attained to the Age of a thousand. Neither was this length of Life peculiar only to Grace, or the

Ch. III. thro' the various Stages of Life. 31
the boly Line; for there are eleven Generations of the Fathers reckon'd to the Flood, but of the Sons of Adam by Cain, only eight Generations; so that the Posterity of Cain seems to have liv'd longer. But this length of Life, immediately after the Flood was reduc'd to one half, in the Post-nati only: for Noah, who was born before the Flood, equalled the Age of his Ancestors; Shem also lived six hundred Years. Afterwards, three Generations from the Flood being ran, the length of Man's Life was brought down to a fourth Part of the Primitive Age, that is, to about two hundred Years.

Abraham lived a hundred and seventy-sive Years, a Man of great Virtue, and was abstemious, and prosperous in all things. Isaac arriv'd at the Age of an hundred and eighty Years; a chaste Man, who enjoy'd more Quietness than his Father. But Jacob, after many Crosses, and a numerous Progeny, liv'd a hundred and forty-seven Years; a patient, gentle, religious, and wise Man. Ishmael, a military Man, liv'd an hundred thirty-seven Years, and always observ'd Temperance to be his only Guide for obtaining Health and

long Life.

Sarab, whose Years only amongst her Sex are recorded, died in the hundred and twenty-seventh Year of her Age: she was a beautiful and virtuous Woman, a singular good Mother and Wife, and yet no less famous for the Liberty from, than Obsequiousness towards

her

her Husband. Joseph also, a prudent and politick Man, passing his Youth in Affliction, afterwards advanc'd to the Height of Honour and Prosperity, liv'd an hundred and ten Years; he was a sober, chaste, and religious Man. But his Brother Levi, who was older than him, attain'd to an hundred thirty-seven Years; he was a Man that was revengeful, and impatient of Reproach or Affront, yet always temperate and moderate in his eating and drinking. His Son liv'd almost to the same Age, as also his Grand-child, the Father of Aaron and Moses: they were both strictly moderate in their way of living.

Moses liv'd an hundred and twenty Years; a stout and virtuous Man, yet the meekest upon Earth, but of very slow Speech; however he pronounces, that the Life of Man is but seventy Years; but if of a more than ordinary Strength, eighty; which seems generally to be the Term of Man's Life even at

this Day.

Aaron, who was three years elder, died the same Year with his Brother Moses: he was a Man of a readier Speech, and of a more easy Disposition, but less constant; he was religious, abstemious, and moderate in his Actions of Life. Phineas, Grand-child of Aaron, out of extraordinary Grace, may be collected to have liv'd three hundred years; if so be that the War of the Israelites against the Tribe of Benjamin, in which Expedition Phineas was consulted, was perform'd in the

Ch.III. thro' the various Stages of Life, 33 the same order of Time in which the History has ranked it; he was a Man of most eminent Zeal and Virtue.

Commander, and always victorious; yet he was religiously sober and moderate, and lived to be an hundred and twenty Years of Age. Caleb, who observ'd Temperance, was his Contemporary, and seems to have lived as long as he did. Ebud the Judge, liv'd to the Age of an hundred Years; for after the Victory over the Moabites, the Holy Land remain'd under his Government eighty Years; he was a bold and an undaunted Man, and one that in a great measure neglected his own Life for the good of his People, and was like-wise a strict Observer of Temperance.

Job liv'd after the Restauration of his Happiness, an hundred and forty Years, being before his Afflictions of such an Age, as to have Sons at Man's Estate; he was a politick Man, eloquent and charitable, and the true

Emblem of Patience.

Eli the Priest liv'd ninety-eight Years; a corpulent Man, and of a calm Disposition, and indulgent to his Children. But Elizeus the Prophet seems to have died when he was above an hundred Years old; for he is found to have liv'd after the Assumption of Elias sixty Years, and at the time of that Assumption he was of those Years, that the Boys mock'd him, by the Name of Baldbead; he was a severe and vehement Man against

against Vice and Luxury, and a Contemper of Riches. Isaiab the Prophet seems to have liv'd to the Age of an hundred Years; for he is found to have exercised the Function of a Prophet seventy Years together, the Years both of his beginning to prophecy, and of his Death, being uncertain; he was a Man of admirable Eloquence, and an evangelical Prophet, full of the Promises of God, and of the New Testament, as a Bottle with sweet Wine.

Tobias the elder, liv'd an hundred fiftyeight Years; the younger, an hundred and twenty-seven; both of them were merciful Men, and great Alms-givers; they were likewise absternious and moderate in all their Actions.

It feems, that in the Time of the Captivity, many of the Jews who return'd out of Babylon, liv'd to great Ages, seeing they could remember both the Temples, there being no less than seventy Years between them, and went for the Unlikeness of them. Many Ages after that, in the Time of our Saviour, liv'd old Simeon, to the Age of ninety Years; a devout Man, and full both of Hope and Expectation. Also Anna the Prophetels, who could not possibly be less than an hundred Years old; for the had been feven Years a Wife, about eighty-four years a Widow, besides the Years of her Virginity, and the Time that the liv'd after her Prophecy of troppedov tes, a visit

Ch. III. thre the various Stages of Life. 14 our Saviour; the was a holy Woman, and passed her Days in Fasting and Prayer.

As to the long Lives mention'd in Heathen Authors, they have no Certainty in them, both for the intermixture of Fables, to which these kind of Relations were very liable, and for their false Calculation of Years. And we find nothing of Moment of the Egyptians in those Works that are extant, concerning the

longest, did not exceed fifty, or five and fifty Years, which is no great Matter, fince many at this Day live to those Years.

But the Arcadian Kings are fabulously re-

length of Lives; for their Kings, who reign'd

ported to have liv'd very long; and, as that Country was Mountainous, full of Flocks of Sheep, and produc'd most wholsome Food; but when Fable is the only Guide, there can

be no Certainty.

Numa King of the Romans liv'd to the Age of eighty; he was a peaceable and contemplative Man, and much devoted to Religion. Marcus Valerius Corvinus compleated an hundred Years, there being forty-fix Years between his first and fixth Consulthin; he was a Man full of Courage, affable, popular, and always fortunate and fober, observing constantly a cool and moderate Diet.

Solon of Athens, the Law-giver, and one of the seven Wise Men, liv'd above eighty Years; a Man of high Courage, popular, and well affected to his Country; he was also

learned,

Body; for his Name was chang'd, for the Madness of his Opinions, from Xenophanes to Xenomanes; a Man no doubt of a vast Conceit.

Pindarus, the Theban, lived to eighty Years. He was a Poet of an high Fancy, fingular in his Conceits, and a great Adorer of the Gods, but a fober Man. Sophocles, the Athenian, attain'd to the like Age; a lofty tragick Poet, given over wholly to Writing,

and neglectful of his own Family.

Artaxerxes, King of Persia, lived ninety-four Years; a Man of dull Wit, averse from the Dispatch of Business, desirous of Glory, but rather of Ease. At the same time lived Agesilaus, King of Sparta, to eighty-four Years of Age; a moderate Prince, as being a Philosopher amongst Kings; but notwithstanding ambitious, and a Warrior, and no less stout in War than in Business.

Gorgias,

Gorgias, the Sicilian, was an hundred and eight Years old. He was a Rhetorician, and a great Boaster of his Faculty, one that taught Youth for Profit. He had feen many Countries; and, a little before his Death, faid, that he had done nothing worthy of Blame fince he was an old Man. Protagoras of Abdera lived ninety Years: This Man was likewise a Rhetorician; but profes'd not to teach so much the liberal Arts, as the Art of governing Commonwealths and States; notwithstanding he was no less a Wanderer in the World than Gorgias, already mention'd. Isocrates, the Athenian, lived ninety-eight Years: He was likewife a Rhetorician but an exceeding modest Man, one that shun'd the publick Light, and open'd his School only in his own House. Democritus, of Abdera, reach'd to an hundred and nine Years: He was a great Philosopher, and, if ever any Man amongst the Grecians, a true Naturalist; a Surveyor of many Countries, but much more of Nature. He was also a diligent Searcher into Experiments, and, as Aristotle objected against him, one that follow'd Similitudes more than the Laws of Arguments.

Diogenes, the Sinopean, lived ninety Years, was a Man that used Liberty towards others, but Tyranny over himfelf; he lived upon a coarse Diet, and was a Pattern of Patience.

Zeno, of Citium, wanted but two Years of an hundred; a Man of high Mind, and a Contemner of other Men's Opinions. He

was also a Man of great Acuteness, but yet not troublesome, chusing rather to take Men's Minds than to enforce them; the like where-

of happen'd afterwards in Seneca.

Plato, the Athenian, attain'd to eighty-one Years; a Man of great Courage, but yet a Lover of Ease. He was in his Notions sublime and full of Fancy, neat and delicate in his Life, rather calm than merry, and one that carried a kind of Majesty in his Countenance, and a strict Observer of Moderation in his Diet.

Theophrastus, the Ethesan, lived eighty Years; a Man of fweet Eloquence, and fweet also for the Variety of his Subjects, and who selected the pleasant Things of Philosophy, and let the bitter and harsh go. Carneades of Cyrene, many Year's after, attain'd to the like Age; a Man of fluent Eloquence, and one who, by the acceptable and pleasant Variety of his Knowledge, delighted himself and others. But Orbilius, who lived in Cicero's time, no Philosopher nor Rhetorician, but a Grammarian, lived to the Age of an hundred Years. He was first a Soldier, then a Schoolmaster; a Man by Nature tart both in his Tongue and Pen, and severe towards his Scholars.

Quintus Fabius Maximus was Augur fixtythree Years, which shew'd him to be above
eighty Years of Age at his Death; tho' it is
true, that in the Augurship Nobility was
more respected than Age. He was a wife
Man.

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Man, and a great Deliberator, and in all his Proceedings moderate, not without Affability, severe. Masinissa, King of Numidia, lived ninety Years; and, being more than eighty-five, got a Son. He was a daring Man, and trusting to his Fortune, who in his youthful Days had tasted of her Inconstancy; but in his succeeding Age was constantly happy. But Marcus Porcius Cato lived above ninety Years of Age; a Man of an Iron Body and Mind. He had a bitter Tongue, and loved to cherish Factions. He was given to Husbandry, and was, to himself and his Family, a Physician.

Terentia, Cicero's Wife, lived an hundred and three Years. She was a Woman afflicted with many Crosses; first with the Banishment of her Husband, then with the Difference betwixt them, and lastly with his last fatal Misfortune. She was also very often

troubled with the Gout.

Luccia, the Actress, must needs exceed an hundred by many Years; for it is said, that she acted a whole hundred Years upon the Stage; at first perhaps representing the Person of some young Girl, and at last of some old

decrepit Woman.

Galeria Copiola, a Player also and Dancer, was brought upon the Stage very young, but in what Year of her Age is not known; and ninety-nine Years after, at the Dedication of the Theatre by Pompey the Great, she was shewn upon the Stage again; not now for

an Actress, but for a Wonder; neither was this all, for after that the was thewn a third time upon the Stage in the Solemnities celebrated for the Health and Life of Augustus. She is reckon'd to have liv'd fober and virtuous from her Youth.

There was another Actress somewhat inferior in Age, but much superior in Dignity, who liv'd very near ninety Years, I mean Livia Julia Augusta, Wife of Augustus Cafar, and Mother to Tiberius (for if Augustus's Life was a Play, as he himself would have it, as when upon his Death-bed he charg'd his Friends that they would give him a Plaudite after he was dead) certainly this Lady was an excellent Actress, who could carry it so well with her Husband, by a disfembled Obedience, and with her Son, by Power and Authority; she was an affable Woman, and yet of a Motherly Carriage, pragmatical, and upholding her Power. But Junia, the Wife of Caius Cassius, Sister to Marcus Brutus, was also ninety Years old; for she surviv'd the Philippic Battle sixtyfour Years. She was a magnanimous Woman, in her great Wealth happy; in the Calamity of her Husband and near Relations, and in a long Widowhood, unhappy; yet much honour'd by all, for her Sobriety and Virtue.

The Year of our Lord feventy-fix, happening in the time of Vespasian, is memorable, in which we shall find as it were a Calendar of long Lives; for that Year there

Ch. III. thro' the various Stages of Life. 41

was a Taxing; (now Taxing is the most authentic and truest Informer as to People's Ages) and in that Part of Italy which lies between the Apennine Mountains and the River Po, there were found an hundred and twenty-four Persons, that each of them either equalled or exceeded an hundred Years of Age; namely, fifty-four Persons of an hundred Years each; fifty-seven Persons of an hundred and twenty-sive; four Men of an hundred and thirty; four more of an hundred and thirty four more of an hundred and thirty-sive or seven; three Men of an hundred

drett and forty.

Par

Besides these, Parma in particular produc'd five, whereof three fulfilled an hundred and twenty years each, and two an hundred and thirty. Bruxels produc'd one of an hundred and twenty-five years old, Placentia one aged an hundred and thirtytwo. Faventia one Woman, aged an hundred and thirty-two. A certain Town fituated in the Hills about Placentia, then called Velleiacium, afforded ten, whereof fix fulfilled an hundred and ten Years each, and four an hundred and twenty Years of Age. each. Lastly, Rimino one of an hundred and fifty years, whose Name was Marcus Aponius. And it will not be amiss to acquaint the Reader here, that all upon this foregoing Lift observ'd Temperance and Sobriety during most part of their Lives. oldon's stall whi

As there are but few found among all the Grecian, Roman, Gallick and German Emperors to our. Days, that have lived to the Age of fourscore Years, and none that exceeded ninety; I will not therefore trouble the Reader with any farther Account of them, but proceed to the Princes of the Church.

St. John, an Apostle of our Saviour, and the beloved Disciple, liv'd ninety-three Years; he was rightly denoted under the Emblem of the Eagle, for his piercing Sight into the Divinity, and was as a Seraphim among the Apostles, in respect of his burning Love. St. Luke the Evangelist compleated eightyfour Years; an eloquent Man, and a Traveller; St. Paul's inseparable Companion, and a Physician. Simeon the Son of Cleophas, called the Brother of our Lord, and Bishop of Hierusalem, liv'd an hundred and twenty Years, tho' he was cut off at last by Martyrdom; he was a flout Man, constant, and full of good Works.

Dionyfius Areopagita, Contemporary to St. Paul the Apostle, liv'd ninety Years; he was called the Bird of Heaven for his fublime Divinity, and was famous as well for his holy Life, as for his Meditations. Aquila and Priscilla, first St. Paul's Hosts, and afterwards his Fellow-helpers, lived together in happy Wedlock at least to an hundred Years of Age apiece; for they were both alive under Pope Xystus the first; a noble Pair,

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Pair, and prone to all kinds of Charity, who among their other Comforts, which doubtless were great to the first Founders of the Church, had this added, to enjoy each other

so long in a happy married State.

St. Paul the Hermit lived an hundred and thirteen Years; his Diet was so slender and strict, that it was thought almost impossible to support human Nature therewith: he passed his Days in a Cave, only in Meditations and Soliloquies, yet he was not illiterate, of an Idiot, but learned. St. Hierome, by the Consent of most Writers, exceeded ninety Years of Age; a Man powerful in his Pen, and of a manly Eloquence, variously learn'd, both in the Languages and Sciences, also a Traveller, and lived strictly towards his old Age in a private State, and not dignified; he had high Spirits, and shined far out of Obscurity.

St. Anthony the Monk lived to the Age of an hundred and five Years; his Life was auftere and mortifying, notwithstanding he lived in a kind of glorious Solitude, and exercised a Command, having his Monks under him, and besides many Christians and Philosophers came to visit him as a living Image worthy of their Veneration, on account of

his holy Life and pious Works.

St. Athanasius exceeded the Term of eighty Years; he was a Man of invincible Constancy, commanding Fame, and not yielding to the Frowns of Fortune; he was free towards the Great.

Great, gracious and acceptable to the People, wife and couragious in delivering himfelf from Oppositions, and always leading an abstemi-

ous and religious Life.

The Popes of Rome are in number to this Day 246; but of so great a number, few only have attain'd to the Age of 80, or upwards, as I could find recorded in History: yet the full Age of twenty-eight of the first Popes was intercepted by the Prerogative and Crown of Martyrdom.

John, the twenty-third Pope of Rome, fulfilled the ninetieth Year of his Age; he was abstemious and frugal, an Enemy to Luxury, and acquir'd a good deal of Riches and Treafure for the Support of the Church; he alter'd many Things much for the better.

Gregory the twelfth, created in Schifm, and not fully acknowledg'd Pope, died ninety Years old; of him, in respect of his short Papacy, there is nothing found in History to make a Judgment upon, but that he liv'd frictly virtuous and abstemious.

Paul the third lived eighty-one Years; he was a temperate Man, and of profound Wifdom and Learning, greatly skill'd in Aftronomy, and always careful of his own Health.

Paul the fourth liv'd eighty-three Years; he was a Man naturally tart, and somewhat fevere, and a little prone to Anger; his Speech was eloquent and ready, his Diet was always lean, thin, and cool, by which means he Ch. III. thro' the various Stages of Life. 45 kept his Passions under Subjection, and arriv'd at that good old Age with all his Senses.

Gregory the thirteenth liv'd to the same Age, and was absolutely a good and great Man, sound in Mind and Body, politick, temperate, religious, sull of good Works, and a

great Alms-giver.

The following Inftances are more promifcuous in their Order, and more doubtful as to the Certainty of their Ages. King Arganthonius, who reigned at Cadiz in Spain, lived. an hundred and forty Years, according to fome Historians, of which he reigned eighty Years. Cyniras King of Cyprus, living in the Island then called the happy and pleasant Island, is affirmed to have lived an hundred and fixty Years. Two Latin Kings in Italy, the Father and Son, are reported to have lived, the one eight hundred Years, and the other fix hundred: But this Account is deliver'd unto us by certain Philologists, who tho' otherwise credulous enough, yet they themselves have suspected the Veracity of this matter. Others record fome Arcadian Kings to have lived three hundred Years; the Country no doubt is a Place apt for long Life, but the Relation is justly suspected to be-fabulous.

One Dando, in Illyrium, is reported to have lived without the Inconveniency of Old-Age, to five hundred Years; but the judicious Reader will make the necessary Allowance.

Hippocrates of Cos, the Prince of Physicians, lived an hundred and four Years, or according to some, an hundred and nine: He was skill'd in the several Particulars requisite for the Knowledge of Phylick, and provided with numerous Observations of his own. composed out of the whole a System of Physick, and was the first that truly deserved the Title of Physician : He joined Learning and Wildom together, was most converfant in Experience and Observation, and did not hunt after Words, but fevered the very Nerves of Science, and so taught them.

Euphranor the Grammarian grew old in his School, and taught when he was an hundred Years old. Seneca, according to some accounts, lived to an hundred and fourteen Years of Age. But Joannes de Temporibus, among all the Men of our latter Ages, according to common Fame and vulgar Opinion, lived the longest, even to a Miracle; his Age being reputed to be above three hundred Years: He was a Native of France, and followed the Wars under Charles the

Great.

Among the Venetians there have been found a great many long Livers, and those of the more eminent fort of the People; but the most memorable is that of Cornaro, who being in his Youth a fickly Person, began first to eat and drink by measure, to a certain Weight, to recover his Health thereby; this Cure, by Use, turn'd into a Diet, that Ch.III. thro' the various Stages of Life. 47 that Diet into an extraordinary long Life, even of an hundred Years and better, without any Decay in his Senses, and a constant Enjoyment of his Health.

In latter times, William Postell, a French Man, lived to an hundred and twenty Years; he was a Man somewhat crazy, and of a Fancy not altogether sound, a great Travel-

ler and Mathematician; The same and Toris

Henry Jankins, a Yorksbire Man, attain'd the Age of one hundred fixty-nine Years; he was twelve Years old when the Battle of Flowden-field was fought, which happen'd upon the 9th of September, in the Year of our Lord 1513, and departed this Life the 8th of December, 1670, at Ellerton upon Swale. This Henry Jenkins was a poor Man, could geither Read nor Write; there were also four or five in the same Parish where he then liv'd, that were reputed all of them to be an hundred Years old, or within . two or three Years of it, and they all affirm'd he was an elderly Man ever fince they knew him, for he was born in another Parish, and before any Registers were in Churches, as it is thought. In the last Century of his Life he was a Fisherman, and used to wade in the Streams. His Diet was coarse and sower, but towards the latter End of his Days, he begg'd up and down. He hath sworn in Chancery and other Courts to above 140 Years Memory, and was often at the Affizes at York, whither he generally went on foot.

It was likewise affirm'd by some of the Country Gentlemen, that he frequently fwahr in the Rivers after he was past the Age of

an hundred years.

Thomas Parr was a poor Countryman of Shropshire, whence he was brought up to London by Thomas Earl of Arundel and Surry. and died at the Age of 152 Years, 9 Months, after furviving nine Princes. Nov. 6, 1635, being open'd after his Death by Dr. Harvey, his Body was found still very fleshy, his Breaft hairy, his Genitals unimpaired, and they ferved to confirm the Report of his having undergone public Censures for his Incontinency. At the Age of one hundred and twenty he married a Widow, who owned he acted the Part of a Man, and that for twelve Years after. He had a large Breaft, Lungs not fungous, but flicking to his Ribs, and distended with much Blood; his Face livid, having had a Difficulty of breathing a little before his Death, and a lasting Warmth in his Arm-pits and Breast after it. His Heart was great; thick, fibrous and fat; the Blood in the Heart blackish and diluted, the Cartilages of the Sternum not more boney than in others, but flexible and foft; his Viscera were found and ftrong, especially his Stomach; and it was observ'd of him, that he used to eat often both by Day and by Night, taking up with old Cheese, Milk, coarse Bread,

An Abstract of Dr. Tancred Robinson's Letter, giving an Account of Jenkins's Age. Small-

Ch.III. thro' the various Stages of Life. 49

Small-beer, and Whey; and which is more remarkable, he eat at Midnight a little before he died. All his inward Parts appear'd fo found, that if he had not chang'd his Diet and Air, he might in all Probability have liv'd a great while longer. His Brain was entire and firm; and tho' he had not the Use of his Sight, or of his Memory, several Years before he died, yet he had his Hearing and Apprehension very well, and was able, to the 130th Year of his Age, to do any Husbandman's Work, even Threshing of Corn.

Francisco Lupatsoli, a Venetian Consul at Smyrna, lived 113 Years, and had by his Wives and other Women, fifty Children; he drank nothing but Water and Milk, sometimes a small Sherbet; his usual Diet was small Soups of Flesh, sometimes of Bread, Water and Figs. He saw at that Age without Spectacles, and could hear well; he drank neither Tea, Coffee, Chocolate, nor any fermented Liquor, as Mr. Ray, then English Consul there, relates; and farther adds, that he saw a Tooth cut in his upper Gum at that great Age.

In the Life of the great Aurengzebe, one of the late Moguls, we have such a notable and shining Example of Absterniousness, Continency, and many other Virtues, as may well recommend this Royal Insidel to the Admiration and Imitation of all Christian Princes upon Earth; wherefore I make no

D managed a Doubt

<sup>\*</sup> Phil. Tranf. No. 44. p. 886.

Doubt but the following Account of that Emperor will no less instruct, than entertain the Reader.

There was no Part then of this great Prince's Time, which he did not affign to fome useful Purpose; for early in the Morning, before break of Day, he bathed, and spent forne Hours at his Devotions; then having caten a little Rice or Sweat-meats, he flut himself up with his Secretaries, and before Noon he gave publick Audience to his Subjects; after which he prayed again, and then went to Dinner, his Table being furnish'd only with Rice, Herbs, Fruits, or Sweetmeats, for neither Flesh or Fish, or any strong Liquors were ever brought before him. In the Afternoon he gave Audience again, which being over, he prayed a third and a fourth time; and the remainder of the Day, till two Hours after it was dark, he fpent in the private Concerns of his own Family; then he fupp'd, and flept afterwards only three Hours, after which, it is faid, he read the Altoran, and pray'd all the remaining Part of the Night. And here we have a remarkable Instance of what vast Advantage an abstemious regular Course of Life is towards procuring Health and long Life, and rendering a Prince always fit for the most important and intricate Affairs; for this Emperor, notwithstanding he was an indefatigable Hearer of Causes, and constantly directed the Affairs of so vast an Empire, and conquer'd several

ch. HI. thre' the marious Stages of Life. 51 veral large Kingdoms, lived without contracting any Diftemper; neither his Judgment, Memory, or other Senses, were at all impaired when he was ninety Years of Age.

durenguebe, it is true, had several hundreds of fine blooming Girls in his Haram, or Seraglio, as all Eastern Princes, have; but these seem to have been kept only for State, or in Conformity with the Custom of the Country; for it is related of him, that even in his Youth, having singled out a young Lady in the Haram to lie with him one Night, and she had dressed and prepar'd herself to receive her Royal Lover, the King coming into the Apartment at the appointed Hour, instead of going to Bed, sell to reading, and between his Books and his Devotions he passed the whole Night, without ever taking Notice of the expecting Lady.

When the Eunuch came the next Morning to acquaint the Emperor that his Bath was ready, which is ever used by the Mabometans when they have been with their Women the Lady answer'd, There was no need of a Bath, for the Sultan had not broke Wind, intimating that he had been at his Prayers; for if a Mahometan has the Misfortune to break Wind at his Prayers, then he immediately bathes, looking upon himself to be too much polluted to go on with his Devotions, till he has washed off the Impu-

rity contracted by fuch an Accident.

From this short Account of the Life of a Mahometan Prince, we may learn an exceeding useful Lesson, worthy of being imitated by all Christian Princes and others, who value Health and long Life; for notwithstanding he was deprived of the Light of Gospel Truth, yet so strong were his Notions of a Supreme Being, that he most constantly and, fervently adored that Being, by which means he led a Life religiously absternious, conquer'd and regulated the Surges of the rest of his Pasfions, amidft fo many Allurements and Temptations of numbers of fine blooming Ladies, vast Riches, Power and Grandeur, which he always had at his Will without Controll, and like a true Christian Hero, preferr'd the Adoration of his Creator, and the Preservation of his Health, to all the Pleasures which his vast Dominions and great Power could afford him.

Richard Lloyd, born within two Miles of Montgomery, was aged 133 Years within two Months; he was a strong, strait, and upright Man, wanted no Teeth, had no grey Hairs, could hear well, and read without Glasses; he was fleshy, and full cheek'd, and the Calves of his Legs not wasted or shrunk, could talk well, and was of a tall Stature: his Food was Bread, Cheefe, and Butter, for the most Part, and his Drink Whey, Butter-milk, or Water, and nothing else; but being persuaded by a neighbouring Gentlewoman to eat Flesh. Meat, and drink Malt Liquors,

Ch. III. thro' the various Stages of Life. 53. Liquors, soon fell off and died. He was a poor labouring Man in Husbandry, and the Truth of his great Age has been confirm'd to Dr. Baynard and others, by a produc'd

Copy of the Register.

Years and a half old when Dr. Baynard examin'd him: he was a short broad-breasted Man; his Food was for the most part brown Bread and Cheese; he cared not much for Flesh Meats; he was never drunk in his Life, and his Drink was Water, Small-beer, and Milk. He told the Dr. that he had buried the whole Town of Northampton, except three or sour, twenty times over; strong Drink, says the old Man, kills them all. He was a sensible old Fellow, and had no Disease but Blindness, which Missortune he did not experience above sour or sive Years before his Death.

Mr. Martin, in his Description of the Western Islands of Scotland, says, that Donald Roy, who lived in the Island of Sand, where they have neither Physic nor Physician, died lately in the hundredth Year of his Age, and was able to travel and manage his Affairs till about two Years before his Death. He makes mention of one that died some Years before, aged one hundred and forty; and of another, who, they said, died at one hundred and eighty Years of Age.

Mrs. Hudson, Mother to Mr. George Hudfon, a Sollicitor in Chancery, lived an hundred

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and five Years, and then died of an acute Difease, by catching Cold: her Eyes were so very good, that the could fee to thread a Needle at that great Age; her Food was little or nothing else all her Life time, but Bread and Milk.

Mr. Johnston, the Father of Dr. Johnston of Warwick, who was always a firing and lufty Man, died at an hundred and eleven Years: his usual Drink was Milk and Ale. or Milk and Small-beer mix'd together.

An Inscription on the Tomb-stone of Margaret Scot, who died at Dalkeith, twelve Miles from Newcastle, Feb. 9, 1738.

Stop, Passenger, until my Life you've read, The Living may get Knowledge by the Dead. Five times five Years I liv'd a Virgin Life, Ten times five Years I was a virtuous Wife; Ten times five Years I liv'd a Widow chafte. Now, tir'd of this mortal Life, I roft. I, from my Cradle to my Grave, have feen Eight mighty Kings of Scotland, and a Queen. Four times five Years the Common-wealth I faw. Ten times the Subjects role against the Law. Twice did I fee old Prelacy pull'd down, And twice the Cloak was humbl'd by the Gown. An End of Stuart's Race I faw: no more, I faw my Country fold for English Ore. Such Desolations in my Time have been, I have an End of all Perfection feen.

Ch. III. thro' the various Stages of Life. 55

Margaret Paten, born at Locknugh near Paisly in Scotland, died in St. Margaret's Workhouse Westminster, June 26, 1739, at the Age of one hundred thirty-eight Years, and enjoy'd the Use of all her Senses to her very last Hours. She lived the most Part of her Life upon Oat-bread, Butter, Milk, and Roots, especially in her own Country; but here in England she indulg'd herself with the moderate Use of Flesh, and sermented Liquors.

January 1743, died at Ludlow in Shropshire, one Bright, aged one hundred and five,
who had his Memory and Eye-fight to the
last, infomuch that he could discern to pick
a Pin off the Ground. He was called the second old Parr, and was born and always
liv'd in the same County; his Food was,
for the most part, coarse Bread, Cheese,

Milk, Butter, Small-Beer, or Water.

February 1743, died in St. Luke's Work-house, London, Mrs. Agnes Milbourn, one hundred and six Years of Age; she had 29 Sons and a Daughter by one Husband, 20 of whom she has had following her to Church at a time for several Years, but out-lived all her Children and Grand-children, save only one Grand-son. She religiously observed Temperance, and always avoided the Use of Spirituous Liquors as Poison; her usual Drink was Milk, Ale, or Small-Beer.

From these Instances it is manifest, that Milk is of a salubrious, safe and sweet Nou-D 4 rishment,

rishment, as also by the many Nations before and fince the Flood, that eat much of it, and lived to great Ages, of which numberless Examples may be found both in sacred and profane History, to confirm the Doctrine of Temperance and a cool Diet, as absolutely necessary to the Prolongation of Life; but, as Dr. Baynard rightly observes, if an Angel from Heaven should come down and preach it, one Bottle of Burgundy, or a full flowing Bowl of Punch, would be of more Force with this Claret-flew'd Generation, than ten Ton of Arguments to the contrary, tho' never fo demonstrable and divine.

By what has been faid thro' the Course of this Chapter, we see, that from the Time of Moses to our Days, the Term of Man's Life has stood much about the same Standard of Years, (a few Lives here and there being excepted:) fo it evidently appears, that the Continuation and Number of Successions of Generations, make nothing to the Length or Shortness of Life, tho' a great many People imagine the contrary. It is certain however, that there are Times in all Countries, wherein People are longer or shorter liv'd : longer, for the most part, when the Times are barbarous, and Men fare less deliciously, and are more given to bodily Exercises: shorter, when the Times are more civiliz'd, and People abandon themselves to Luxury and Eafe. Therefore from what has been hitherCh.III. thro' the various Stages of Life. 57 to advanc'd, it is likewise evident to a Demonstration, that Temperance, moderate Exercise, and a cool Diet, are absolutely requisite for the Preservation of Health and long Life, as I shall show more at large in the Sequel.

The same, no doubt, happens in other living Creatures; for neither Horses, Oxen, nor Sheep, are abridged of their usual Ages, even at this Day; and therefore the great Abridger of Age was certainly the Deluge; and perhaps some notable Accidents, such as Inundations, universal Droughts, Earthquakes, or the like, may produce the same Effect again.

And the like Reason may be given, in regard of the Dimension and Stature of human Bodies; for they are not leffen'd by the Succession of Generations, notwithstanding what Virgil (led by the vulgar Opinion) divin'd, that After-ages would bring forth less Bodies than those in his time; whereupon he says, Grandiaque effossis mirabitur offa Sepulchris; that is, After-ages shall admire the great Bones dug out of ancient Sepulchers. But tho' it is not denied that there were fome time before the Flood, Men of Gigantic Stature, (the Bones of fuch as, for certain, have been found in ancient Sepulchers and Caves in Sicily, and elsewhere:) yet for these last three thousand Years, a Time whereof we have authentic Records, no fuch have been produc'd in those Places, nor indeed any where else; for which Reason it is evident, that they are

very much miftaken, who are wholly carried away with an Opinion, that (by Succession of Ages) there is a continual Decay, as well in the Term of Man's Life, as in the Stature and Strength of his Body; and that all things

decline, and change to the worfe.

Therefore, as the Succession of Generations contributes little or nothing, either to the Length or Brevity of Life, as appears from what has been faid already, yet the immediate Condition of the Parents, without doubt, conduces very much to it; for some are begotten of old Men, some of young Men, some of middle-aged Men; again, some are begotten of healthful Fathers, and well difposed, others of diseased and languishing ones; again, some of Fathers after Repletion, or when they are drunk; others after Sleeping, or in the Morning; others again, after a long Intermission of Venus, some upon the Act repeated; again, some in the Fervency of the Father's Love, others after the cooling of it, as happens in long-married People.

The fame things ought to be confider'd on the Part of the Mother; to which we must add her Condition during her Pregnancy, as conderning her Health, her Diet, and manner of living; the time of her bearing in the Womb, as to the feventh, eighth, ninth, or touth Month. But to reduce all these things to a Rule, how far they concern long Life, is difficult; for those things which we often conceive to be the best, fall out to the con-YOTY

ch. III. thro' the various Stages of Life. 59 trary; as for Instance, that Alacrity in a Generation that begets lusty and lively Children, will be less profitable to long Life, because of the Acrimony and instaming of the Spirits, which soon dissipate, and leave the Body dry and wither'd is to that the best Rule is to use Moderation in all things, conjugal Love rather than an unlawful one; the best time for Generation being in the Morning, or after a due Concoction of our Aliments, and after Sleep, but never when the Body is in a languishing or sickly State, or too much satigued.

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## PART HAST

## INTRODUCTION

S the principal and inevitable Causes of Old Age, and finally of our Diffolution, are three, viz. \* the Contrariety of the Principles of our Composition, the Actions inseparable from Life, called Animal Actions, and the Excrements, which are unavoidably engender'd by Aliment in our Bodies; therefore we must (if we would preserve the Body in a good State, and guard ourselves against the too quick Approaches of old Age) dispose these things in such a manner, that the Harmony and Union of our Principles, which are called Temperament, be well supported, that the Spirits which are diffipated every Moment be repair'd, and the Excrements retain'd in the Body be expell'd.

All this may be easily obtain'd by the means of a good Regimen, without the Assistance of any Medicine: and this Regimen comprehends many things, which are all reduc'd

<sup>\*</sup> See the Explication of these three things at large, in Chap. II. Part. I.

to fix general Heads. They are called, by the Physicians, Nonnaturals; because, if we manage them with Dexterity, and make proper use of them, they preserve Health, and may be called Naturals; but if they are abused, or fall short, or exceed a just Proportion in the least, they cause Distempers, and, in that Sense, may be said to be against Nature. These Nonnaturals are, Air, Meat and Drink, Sleeping and Watching, Motion and Reft, Retention and Excretion, and the Passions of the Mind; of which I shall now discourse in order.



## CHAPL

#### Of the Nature of AIR.

N order to account for the different Effects, and Influence of Air upon Human Bodies, in the following Discourse, it is necessary to premise in this Place, that Air, (according to its Nature, and the *Idea* we can form of it) is, that thin and invisible Fluid, in constant Motion, wherein we breathe and move, encompassing the Earth and Seas on every fide, and containing the Vapours, Clouds, and other Meteors; the whole Body of which is called the \* Atmo-Sphere;

<sup>\*</sup> From the Greek Words, 'Alude a Vapour, and Zedies, a Sphere; so that Atmosphere in English, is a round Body of Vapours; and such is the Air surrounding the Earth, as being constantly repleat with Vapours exhaled by the Rays of the Sun.

tobere ; and that it is the principal Instrument of Nature in all its Operations; for no Vegetable, Animal, Terrestrial, or Aquatic can be produced, live, or grow without it: So that Air is the chief Instrument in the Generation, Resolution, Accretion and Corruption of all terrestrial Bodies; for it is certainly true, that it enters into every Composition, more or los of all Fluids and Solids, all which produce great Quantities of Air.

The lower Parts of the Air, in which all Animals live and breathe, are impregnated with an infinite Variety of the Effluvia, Steams, and Particles of terrestrial, aqueous, metalline, vegetable and animal Substances, which, by Attrition, become fo small and light as to float in it. Hence it is evident, that the Air must be differently impregnated in different Places of the Surface of the Earth, which produce confiderable Alterations in its State, whereby human Bodies are differently affected, as will plainly appear heareafter.

Water being an Ingredient of the Air, is continually exhaled, and as continually descends; for when the Air is overcharged with it, it returns again, and falls upon the Surface of the Earth, in Rain, Hail, Snow or Dew; but the Dew falls chiefly when the Sun is down.

Earth, when calcined, flies off into the Air; and the Ashes of Vulcanos or burning Mountains: Likewife Salts of all kinds are ingredients of Air; for even fixed fossil Salts

Ch. I. thro the various Stages of Life. 63

may be digested, and thereby rendered volatile, and evaporate into the Air. There are befides Particles of all Minerals whatever in the Air; even Gold, the most compact and heaviest of them, can be evaporated and exhaled into Air, as will be made appear in the latter End of

this Chapter 4

this Chapter and Fumes which are railed by natural or artificial Fires, all vanish into the Air. The Steams of fermenting Liquors, and the poilonous Fumes of Mines, impregnated with sulphureous Exhalations, and combin'd with different Salts, or Metalline Particles, which are flinking, pily, and inflammable, evaporate into the Air, and make up part of its Contents; which must necesfarily to alter its Constitution, as to render it not only infalubrious, but even pernicious to every Animal that breathes in it.

The watery Exhalations, with the fragrant and volatile Spirit of all Vegetables, being Ingredients of the Air, contribute very much towards its Salubrity, or Infalubrity, as well when growing, as when cut down and in a decaying State; for the most volatile parts of Vegetables will evaporate into the Air, by a Degree of Heat much less than that of Summer; as is evident both by Chymistry\* and the fense of our own Smelling; for spicy Odours are smelt at a great Distance from the Countries where the Spices grow; so that the Quantity of vegetable Perspiration must be very confiderable in Summer-time; and

<sup>\*</sup> Boerhaave Chem. vol. 2. Process. I.

by the Reverend Dr. Hale's \* Experiments we are farther convinced, that Vegetables of all kinds perspire Particles which float in the Air, and are either wholfome or deftructive to human Bodies, according to their different Qualities. Hence we may infer, that upon the account of the Perspiration of Vegetables, the Summer Air must be very

different from that of the Winter.

Animal Perspiration is another Ingredient of the Air, as well as the Effluvia of all their other Excrements, which oftentimes infect that Part of the Atmosphere, as to produce pestilential Diseases. The Perspiration of a human Body, according to Mr. Hale's ‡ Computation, is about to Part of a Inch in 24 Hours all over the Surface of the Body and the Quantity of the Moisture, by Respiration from the Lungs, he computes at 9792 Grains, or 1. 39, in 24 Hours; § the Surface of the Body he computes at 2160 square Inches, or 15 squareFeet, consequently the Surface of the Skins of 2904 fuch Bodies, would cover an Acre of Ground, and would make an Atmosphere of the Steams of their own Bodies about 71 Foot high in 34 Days, which would be-come Pestiferous in a Moment, if not disperfed by Winds.

The great Quantity of Animal Substances imbibed into the Air, farther appears from this,

<sup>\*</sup> Hale's Veg. Stat. p. 49, 50.

<sup>†</sup> Veg. Stat. p. 11. Exp. 1. § Hæmaft. p. 326. p. 328.

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that all the Excrements of all the Carcasses of Animals, such as those that are burnt, those that are exposed later, and those that are buried, in length of Time all vanish into Air at last, except a small Quantity of Bones, which turn into Earth. From hence we may inser, that living in great and populous Cities, or in Gamps, or near Numbers of dead Carcasses in a hot or sultry Season, may insect that Air so say as to dispose the People to putrid and malignant Fevers, of which we have several Instances in History, too tedious to insert in this Place.

And though Nature makes use of all polfible Means to preferve the Mass of this beterogeneous Fluid, wherein we breathe, in a wholfome State; yet it must necessarily happen, that the Air of particular Regions, Sea-fons and Places may differ very much in the Proportions of the Mixture of Ingredients already mentioned sto that such Air must affect human Bodies variously, by such Excesses or Defects. For Air, when too moist, affects us with one Class of Difeases; and when too dry, with another. Air impregnated with the Effluvia of Animals, especially of such as are rotting, has often produced pestilential Diseases in that Place, as we find by Experience: for the Inhabitants of such Countries, where great Numbers of Men have been slain in Battle, and left unburied, were soon after insested with pestilential Distempers; as that which happened

pened \* at Massanissa, where 80,000 Persons were destroyed, and at Utica, wherein 30,000 Persons died of the Plague. That mentioned by Livy, which invaded the greatest Part of Italy; owed its rife to the dead Bodies of the Romans and Fidenates left unburied in the Field of Battle. The Plague mentioned by Ambrose Parce, 1562 & was occasioned by Carcasses thrown into a Ditch. Great Quantities of dead Locults driven into the Sea, by Winds, and from thence cast up in Heaps on the Shore by the Waves, produced the Tame Effects, as Diodorus Siculus relates: And likewise the Steams of great Quantities of corrupted Vegetables have produced the like Effects in their Neighbourhood. The Steams and Effluvia of human living Crostures are extremely comptible, as has been observed already; and likewise the Water in which human Bodies wash and bather by keeping, smells cadaverous, a great part of which evaporates into the Air. namuel Being

From hence we may conclude, that it will be of the utmost Consequence to every one, to take care what kind of Air it is they deep and wake, breathe and live in, and are perpetually receiving into the most intimate. Union with the Principles of Life; for as the Air being attracted, received into our Bodies, and mixed with our Fluids every

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Sanc. August. lib. 3. de Civit. Dei Cap. 31,

Histor. Roman.

Ch. I. thro' the marious Stages of Life. by Instant of our Lives, any ill Quality abounding in it, so continually introduced, must in Time cause fatal Effects in the Animal Geronomy.

The first Consideration then, in Building of Houses and Cities, should be to make them open and airy, and well perflated; therefore we should never build pan high Hills, very mear any great Confluence of Water, or in the Neighbourhood of any great Mines, near Beds of Minerals, or on marthy or mosty Foundations; but either in a champaign Country, or on the fide of forme finall Eminence, theltered from the North and East Winds, or upon a light gravelly Soil. The best Method of finding out the Nature of the Soil, will be known from the Plants and Herbs that it produces, and from the Nature of the Waters that fpring out of it, which ought to be faveet, clear, light; foft and tafteless to to blo ods ad

All high Hills or Mountains are damp, for it is common to see it rain or snow on Mountains, when the Valleys below are clean, dry, and serene. All great Hills are Nests of Minerals, and Covers for Reservoirs of Rain-Water, and the Clouds are only great Fleeces of rarified Water floating in the Air, and these high Hills intercepting them, are compressed into Rain or Dew, and are compressed into Rain or Dew, and are comparably straining down the Chinks of the Mountains into the Sea and other Reservoirs of Water; and Rain is allowed to be the Origin of Rivers and Fresh-Water E 2

Springs. Moreover, these Mountainous Places are always exposed to great and almost continual Winds; and where any great Concourse of Water is, the Air must needs be always damp there, because the Sun is perpetually exhaling Dews and Vapours from therefore we mould these Waters.

Dew is another Ingredient of the Air, which is not mere Water, but a Collection of the watry, oily, saline, and volatile Substances, exhaling and transpiring from the Earth, and are not to be seen, as long as they are agitated by the Sun, but in its Abfence, and as foon as the Air cools, they become visible; and as the Air is a thin or rare Body, it cools much fooner than the Earth, which continues to transpire this Substance after Sun-set; and a great deal of it falls down again in the Form of Water, by the Cold of the Night; for it is ob-fervable, that when there is no Wind, there is a Coat of this Vapour generally to be feen near the Surface of the Earth.

Dew then, being a Composition of all the Substances that are exhaled from that Tract of Earth, must of consequence be very different in different Tracts of Ground, for which Reason, according to the learned Boerbaave ‡, the Chymists can never agree about the component Parts of it; because they make their Experiments upon Dews of different Places, and consequently of a different Nature of Ingredients; for Ch. I. thro' the various Stages of Life. 69 in some Places it produces such volatile and explosive Salts, as to break Glasses in Distillation; in others it stains the Glass like the Colours of the Rain-bow, which nothing can efface.

In some Countries, as in Bermuda \*, the Air being impregnated with correfive Salts of different kinds, will corrode the Bricks and Tiles of Houses, and even rot the very Hangings in Rooms, as has been observed by many. The Perspiration of metalline acid Salts from certain Places of the Earth, which, upon the account of their Gravity, rise only to a certain Degree of Height, are exceedingly offensive when taken in by the Breath, for they either contract the Velicles, or immediately coagulate the Blood in the smaller Vessels, which creep along the Surfaces of the little Aerial Bladders of the Lungs, that are in immediate Contact with the outward Air; and such are those arfenical Steams in the Grotto Del Cane near Naples, and in fome Mines in Carniola, Campania, and at

Of all the Collection of Ingredients in the Air, none are more pernicious to human Bodies, than Sulphurs; and also Charcoal Steams confined in close Places, such as Cellars and Caverns under-ground, will sufficate Animals in a Moment; but when sulphureous Vapours abound too much, then kind Nature sets them on Fire by Lightning. Sulphureous E. 3.

Boerhaave Chym. vol. I. p. 494. q a low whirds

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Vapours likewise infect Vegetables, and render the Grass and Herbs very pernicious to the Cattle that feed upon it, as Mr. Jones\*

and others relate.

The + Observations of the Learned made on several Mines, give an Account, how the fulphureous Steams and Vapours differently affect and frequently destroy the Miners who work in them; forne fall into Convultions, Faintings, Palfies, and Apoplexies; others are instantly suffocated; and others again are killed by Explosion, refembling in its Nature that of Thunder or Gunpowder, as foon as the fulphureous Matter takes Fire: yet it must be allow'd, that Sulphur in itself, is neither unwholfome nor unfriendly to the Lungs; for the Exhalations from Traces of Earth abounding with Sulphur, are efteem'd wholfome in the open Air, fuch as those about the City of Naples; but it must be observ'd, that these Exhalations are in the free and open Air, and not in too great Abundance, and in all Probability unmix'd with any other pernicious Salts, which those in Mines must be im-Collection of pregnated with.

From what has been said already, in Page 65 and 66, it must follow, that the Air in great and populous Cities differs very much from that in the Country, and that it is from offensive Smells and Furnes, among other things, that Diffeases are more frequent

Philof. Trans. vol. 2. p. 401. and likewise Philof. Trans. abridg. vol. 2. p. 180.

quent and more dangerous in the former than they are in the latter. Great Calms have often preceded the pestilential Constitutions of the Seafons; hence the close and confined Air of Prisons often produces mortal Diseases; and in Bays and Harbours, the Crews of Ships turn fickly, that would be healthy in the open Seas; and the great Mortality that is fo often in Camps is chiefly owing to offensive Smells and Steams; for nothing contributes more to the Production of Differences than the infected Air that they breathe in, occasion'd by the Filth which is the necessary Attendant of such Places; especially at Sieges, where the cort rupted Particles of dead Bodies, both of Men and Beafts, fill the Air with an intolerable Stench. Besides, the Effluvia and Steams of Perspiration exhal'd into the Air, from the Bodies of Men and other Animals, must so charge that Air, as to encrease its Weight very much; and at the same time the Heat of the Camp will weaken its Spring to confiderably, as to render it very unfit for Respiration; for thereby the Blood will remain unbroken in the Lungs, and fo dispose the People to those Distempers, occasion'd by a Viscidity in the Blood; fuch as malignant Fevers, Dysenteries and Agues.

According to the learned Boerbaave and others, the Eggs of Infects, and even Infects themselves very often are floating in the Air, and are so small as to be generally invisible by the Assistance of the best Microscopes,

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which

which render the Air very unwholfome, and are often times the Cause of many grievous Diseases, being suck'd in with our Breath, and fwallow'd down with our Food: and the low and marshy Grounds are most commonly subject to be infected with them; for there we always find great Quantities of Flies and other Infects. Caterpillars and other Infects, which eat up and destroy the Leaves of Trees and Plants, are probably produced by the Eggs of those Insects floating in the Air; otherwise we cannot eafily conceive how they can be generated in the Plants themselves. Historians relate, that there are Showers of Rain fometimes in Africk which affect the Inhabitants with Shiverings, and that there are Infects found in the Drops of these Showers; hence it appears that there are Insects in the Air, though not visible to the naked Eye: for it has been obferv'd, by the Help of Glasses, that in part of a Room illuminated with the Beams of the Sun, Flies are seen sometimes darting like Hawks upon a Prey.

Tho' the Air on or near the Surface of the Earth is impregnated with an infinite Number of beterogeneous Particles, as appears evidently by what has been faid already; yet the wife Author of the Universe has so temper'd this Mixture, as to render it wholsome to all the Animals that live and breathe in it, except in some sew accidental Cases; for doubtless pure Air without any such Ingredients would

Ch. I. thre' the various Stages of Life. 73 be very unfit for Animals and Vegetables to subfift in; therefore, in order to render falubrious this Element wherein we breathe, infinite Wisdom has so ordained, that the whole Mass is never overcharged with these Contents; for as human Creatures are unable to bear Excesses of any kind, such as too much Heat, too much Dryness or Moisture, there is a continual Circulation of Water and other Ingredients in the Air, and in most Places the Air contains near the same Quantity of Water: for as the Sum of all the Force of the Sun upon the same Surface of Land and Water, and the Heat of the Surface of Earth within the Year is very near uniform, consequently the Quantity of Exhalation is the same: And as the Air has a Power of imbibing and fustaining only certain Quantities of Water with other Ingredients, and the Sum of all the Quantity that falls from the Air over the Surface of the Earth in Rain, Hail, Snow, and Dew, is the same; yet, by accidental Causes, such as Winds, the Stoppage of the

fall in one Place than another.

This Water is again carried, by its natural Gravity, in Streams into the Sea, and other Refervoirs of Water, and from thence again exhal'd, of which there is only left a sufficient Quantity for the Nourishment of Plants and Animals, the Perspiration of whose Bodies is again exhaled; and this Circulation is constantly

Clouds by Tracts of Mountains, more of these Exhalations or Vapours may be carried and

74 A Guine to HEALTH Part II maintained and directed by the wife Order of Divine Providence, And all these different Ingredients of the Air are digested and attenuzted by the Heat of the Sun, and they are confrantly stirr'd and agitated by Winds, which mor the Air of different Regions together. There are likewise Fermentations in the Air. which are succeeded by violent Motions and Explanons in Thunder and Lightning, by which Means the redundant sulphureous Steams, and other pernicious Particles are destroyed and confumed in those Storms.

The particular Causes of Thunder and Lightning feem to be nothing else than the Sun exhaling moist Particles into the Air. these condense and gather into Clouds, and when these inclose a Quantity of sulphureous, nitrous and hituminous Exhalations, and likewife Salts of various Sorts, Acids and Alkalies, extracted both from the Earth and Ocean, which being violently agitated by the Oppofition of Heat and Cold, and the Motion of the Air, operating upon those sulphureous and nitrous Particles, together with a watery Matter, till at last they ferment and are kindled; then the Fire bursts open the Cloud with Explation in Thunder and Lightning, where the Pallage is most easy, and the Cloud not able to make any farther Refistance; Sometimes the Opening is very wide, and stands a small time, with a firey Edge about it; the Cloud is then dash'd with great Violence, the dir effifting with its Motion, and the fulphureous Matter

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Ch. I. thre the various Stages of Life. 78 Matter breaks out again in various Sounds: the first Discharge being over, presently succeeds a fecondy and this is back'd with a chiral fourth, fifth, Sec. as long as the Store of pombustible Matter holds out to maintain the Fire, till at last the Equilibrium of the Air is Perfectly reftored. .. Barth. of the structed and

The Effects of Lightning are wonderful; it being a most subtile and refin'd Matter. will sometimes burn a Person's Cloaths, while his Body remains unhurt; and on the contrary, it will fometimes break a Man's Bones, while his Cloaths and Flesh receive no Harm. In like manner it will fometimes melt or break the Blade of a Sword in the Scabbard, and the Scabbard remain untouch'd. It has drank up Vessels of Water, the Cover being left untouch'd, and no other Token remain'd. Gold, Silver, and Brass, have been melted, and the Bags wherein they were contain'd not burnt, nor even the Seal of Wax defac'd. / Marcia, Queen of the Romans, was Thunder-struck when she was big with Child, which was killed in her Womb, and the receiv'd no Harm.

The Reason of these strange and contrary Effects, Philosophers can but conjecture at, imputing it to the different Figure and Quality of the Particles of the \* Lightning, as

There is a fort of Stone or Mineral, which is vulgarly called a Thunder-bolt, and it is thought, that it falls from the Clouds in a Clap of Thunder, and thereby great Mischief is done many times. But this is a vulgar Error; for the Stone feems to refemble more an artificial than a natural Producti-

to the Rarity and Thickness of the Fire; for the more subtile penetrates more easily, and the thicker with more Difficulty; whence the latter does more Harm than the former; and tho' it produces various and wonderful Effects, yet it is of such singular Use to the Inhabitants of the Earth, that they could scarce subsist without it; for it clears the Air, destroys and consumes all the redundant and noxious Steams and Particles that float in it, breaks the Clouds, and sends down Rain upon the Earth.

It is certain, from undoubted Experiments, that the Air near the Surface of the Earth is more or less impregnated with all those Heterogeneous Particles already mention'd, and a great many more not possible to enumerate. And in truth it cannot be otherwise, by the known Laws of Nature; for by what means soever a Body becomes divided, till some of the Particles become less than the component Particles of Air, and by that means become lighter, they will be elevated into the Air, until by their \* Coalescence, their Gravity be so much encreased, as to

on, by the Make and Figure of it; and being most commonly found where Sepulchers have been, makes the Learned incline to think, that they are some Remains of Antiquity, and were formerly of Use in War and Arms, which was customary with the Ancients to bury with their Ashes. See Rowning's Comp. System, p 146. Part II. and Philos. Trans. No. 313, 316, 319, 331.

• Coalescence, is the gathering together and uniting into a sensible Mass, those minute Particles stoating in a Fluid, which

were not before visible in it.

1 Huygens in his Treatise upon Light and Gravity. He was a celebrated Mathematician.

<sup>†</sup> Mr. Romer's Observations on the Eelipses of the Satellites of Jupiter.

Fire. Vitrified, made or chang'd into Glass by the Force of

one Part of it exhaling into the Air, as the other is turned into Glass and that in a few Seconds of Time, according to Mr. Bhindel and others.

Hence it appears, that the Rays of the Sun are not only capable to abrade and file off from the most folid Bodies, such small Particles as will be render'd highter when separates than the least compounding Particle of the but also by the Celerity with which they will be reflected, will thereby be capable to carry into the Air such little Collections of Matter, as are in Fact heavier than the Air they mount up in, which, when the Force impressed becomes less than will impel them higher they must necessarily fall down to the Banth again, which will variously affect human Bodies, both in their Ascent and Descent, according to their different Nature and Properties.

# their exceeding Smallners, And we may gued

## the Trew of a pure quality for no Body, the rever to hard and compact, is able to

-nu Of the Properties: of Air ist Ais

THE Properties of Air are, Gravity, Elasticity, Fluidity, and Divisibility. They are so called, because they constantly remain in the whole Mass and in every part of it.

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The Gravity of the Air was first difficever'd by Galileus, by trying to what Height Water might be raised by pumping and when he found it could not be raised higher than 33 feets justly concluded, that it was from the Counter-ballance of the Weight of the Air that it was raised to high and was about

when the Barometer of And and I when the Barometer of And and and John Haller in it to that the Merchant of Water, rabout to to 800 and to that the Medding rabit to 10,800 as Sor that the rabin we breathed in may be comprehed

Weight which any Species of natural Bodies have, and by which they are plainly diffinguishable from all other Bodies of different Kinda, when compared with them: And it is not climproperly called relative Gravity, to diffinguish it from absolute Gravity, which encreases according to the Proportion of the Balk or Bigness of the Body weighed. Thus, if a Body weighs a Pound, one as big again will meigh two Pounders and let the Bodies be of what Nature or Degree of Specifiel Gravity sover, a Pound of one will be as much as a Pound of the other absolute considered. Thus a Pound of the other absolute considered. Thus a Pound of freathers is as heavy as a Pound of Lead; but if we consider Lead will be smuch present than the later; or Lead, But for Milk, will be much heavier than Franchers, and stall beavier than heavier than Franchers, and stall beavier than heal.

The other line of the demolphere by; it is about three Feet in Length, and to or to of an Inch bote, feel'd up at one End, and at the other End it is fill'd quite full of Quickfilver; and thus immeried in a small Vessel of Quickfilver, that will sink down in the Tube, or run out into the Vessel, till it remains in the Tube between 28 and 31 Inches perpendicular height; and this Column of Mercury in the Tube, is equal in Weight to a Column of Mir of the same Basis, and of the Height of the Atmosphere, and consequently is suspended by it; which therefore by its rising higher or falling lower, shews the proportionally greater or lesser Weight of Pressure of the Atmosphere.

in, takes up 10,800 times the Space that the like Quantity of Mercury would. And the Honourable Mr. Boyle proves by Experiments +, that the Air without any adventitious Heat, may, by the Force of its own Spring, possess 13,000 times the Space it does when pressed by the incumbent Atmospace and therefore may posses a Space one bundred forty-five Millions, and fix bundred thousand times greater than the same Weight of Mercury; and that by the Addition of Heat, it may be forced to fill a Space much larger. And if we confider that the Air we breathe in, may be compressed into 40 times less Space than that which it now fills; therefore Air may possess a Space 520,000 times greater at one time than another to more a dungarfib or ,

The Gravity of Air counterpoiles a Column of Mercury from 27? Inches to 30?, the Gravity of the Aimosphere varying sometimes is, which are its utmost Limits, so that the specifick Gravity of the Air cannot be exactly determined. And the Account that Dr. Halley gives of the Causes of the Variation of the Gravity of the Air, seems very clear and conclusive; for they must either proceed from the Air's being more or less charged with Quantities of ponderous Ingredients in one Time and Place, which, as has been said in the former Chapter, are plentifully exhaled into

I Boyle's Tracts about the wonderful Rarefication of the

ch. II. thro' the various Stages of Life. 81 into it, or by its being accumulated more in one Place than in another by Currents of Winds; thus contrary Currents of Air coming to the same Place, must accumulate the Air in that Place, and consequently raise the Mercury in the Barometer; but two Currents of Air from the same Place, must sink the Air in that Place, and consequently the Mercury in the Barometer.

This is very possible in Liquids, and happens even in the Motion of the Tides; for if there was a perfect Calm always, the Equilibrium could only be charged by the greater or smaller Quantity of ponderous Ingredients in the Air; in Confirmation of which it is discovered, that where the Winds are not variable, as near the Line, the Alterations of the Barometer are very small: And these Variations of the Air's Weight cannot proceed from letting its ponderous Ingredients fall, as in great and heavy Showers: Tho' it is certain, that a heavy Body falling through a Fluid, during its Descent, does not press upon it, but by the Resistance which the Fluid gives to its Motion in Descent; but the Decrease of the Atmosphere's Weight during the fall of Rain, Snow, or Hail, is not proportionable to this Cause, therefore cannot be

As the incumbent Atmosphere is fluid and heavy, it presses equally upon the Surface of a human Body, with a Weight equal to a Column of Mercury, whose Basis is

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accounted for from it.

equal to the Surface of a Human Body; and Altitude, that of the Barometer, as in a middle-fiz'd Man, with a Weight of 32,000 Pounds; for as it is possible for the Air to vary to in its Weight, fo that fuch a human Body must sustain a Weight of 3,200 Pounds Weight more at one Time than at another; and if the Mercury varies only one Inch in Height, there will be a Difference of about 1000 Pounds Weight: Such Alterations would affect both the Solids and Fluids of human Bodies very much, were it not that the Ballance between the Air within and that without the Body is quickly reftord, by the free Communication that is between them; fo that these Changes are suffered without any fenfible Inconvenience to healthful Peoterations of the Barometer are very finciald

This proves the ready Admission of the Air into the Vessels of human Bodies, and the Egress of aerial Particles from within the Body, in each Case of the Variation of the Weight of the external Air, from less to more, or from more to less; for if this Ballance between the external Air, and that within the Body was not kept, the Fibres and Fluids being elastick, in case of an Increase of the Weight of the external Air, both the Fluids and Solids would be too much compress'd; and in case of a Decrease of this Weight, they would be dilated with a painful Sensation, and endanger the Life of the Individual; for the Fall of the Mercury

Ch. II. thre' the various Stages of Life. 89 in the Barometer is the same with the Exfuction of so much Air in the Air-pump; and the Rise of the Mercury the contrary.

This Alteration happens in Vegetables and in fermenting Liquors, as well as in Animals and how these considerable Changes are made by Heat, Cold, or great Winds in fermenting Liquors, is an Observation of every one converfant with them; for all these Changes are brought about by altering either the Weight or Spring of the circumambient Air : It is for this Reason likewise, that several People, by their Akings and Pains, can foretell any confiderable Change of the Weather; for their Blood being more rarefied at the approach of wet Weather, or high Winds, will more forcibly press upon the sensible Membranes of the Body, so as to cause Pains that they were free from before: And this the rather happens, because the Blood hereby becomes not in the least the more fluid; for Froth, which is only Water blown into Bubbles by Air, is less fluid than Water itself; and the Globules of the Blood being blown larger by the contained Air, when the Pressure of the external Air is removed, the Blood then is rendered less fluid, and will pass through the Capillaries with great Difficulty.

A Fluid must have its Parts small, smooth, spherical, or approaching thereunto, and of equal Density, if the Fluid be homogeneal \*,

\* Homogeneal is such Particles as are pure, entire, un-

mixed, and altogether like one another.

according to Borelli ‡: and it is not necessary that the Parts of a Fluid should be in Motion, because it is neither apparent that the Parts of all Fluids are so, nor that the Parts of some solid Bodies are not so; therefore, the Blood in this rarefied State is rather less, than more sluid, in which Condition it will remain, whenever the Gravity of the Air is lessen'd, or its Spring weakened, by

any Cause whatever.

There is no Liquor that can be blown up into Bubbles, but what is somewhat viscid, and the more tenacious the Parts of any Liquids are, the fitter it is for this Use; for the Bubbles will be both larger and more lasting; for Example, a Mixture of Soap and Water may be blown into Spheres or Bubbles above fix Inches in Diameter; and human Blood confifts of Parts like what is in such a Mixture; for there are watry, oily, and faline Particles in the Blood, as is evident to our Senses: And that the Blood is blown into fuch little Spherulæ beyond dispute, is what may be observed with a Microscope in the Tail of a Fish; for the Globules of Blood being too large to pass through the smallest Arteries, they change their Spherical \* Figure to a spheroidal + one; and when they come into a wider Channel, they recover their former Figure again. Now as it is the Property

<sup>1</sup> Borelli de motibus à gravitate factis, Præpos. p. 142.

<sup>\*</sup> Spherical, round like a Ball.
† Spheroidal, an oblong Sphere or Ball.

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Property of an Elastick Body alone, that when its Figure is changed, to recover it again; and nothing being Elastick but Air, or at least, what contains Air in it; it is a plain Reason that the Globules of the Blood must contain Air in them.

From what has been said, it appears, that whenever the Blood is too viscid, so that the Force of Cobesion be not greater than that by which the Air contained in the Blood endeavours to expand itself, in such a Case the Person will be more sensibly affected by the Alteration of Weather; from hence better Indications may be taken both for the Cure and Prevention of those Diseases that proceed from a Viscidity in the Blood, than from any other Source whatever.

Human Species can live in Air of very different Gravity; for the Air in the same Place may differ in Weight, the Variation of the Mercury in the Barometer being so much; but what is still more extraordinary, human Creatures can live in Airs, where the Difference of the Weight is double; for Example, in the Bottom of deep Mines, where the Mercury stands in the Barometer at 32 Inches, and at the Top of the highest Mountains, supposing em to be 3 Miles high, the Mercury then must stand at a little above sixteen Inches.

Notwithstanding human Creatures can suftain such a Difference of Weight or Pressure of Air, as (in the common Variation of Gra-

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vity in the fame Place) makes the Difference of Pressure upon a Person of a middle Size 3600 Pounds Weight, and in the Difference of Height in the Bottoms of Mines, and at the Tops of the highest Mountains the Difference of 18000 Weight; which Difference of Pressure or Weight must produce great Alterations in the bending or stretching of the Fibres, and in dilating the Fluids of a Human Body: For in the case of a greater Weight, the Fibres will be more strongly braced, and the Fluids will be rendered more compact; and, as has been observed already, were there nota freeCommunication between the outward Air, and that within the Animal Fluids, these Alterations would be insupportable; for the Animal would be, in fuch a Cafe, as in an Air-pump with the Exsuction of half the Air; in which Case the Blood would boil up and expand itself to a very great Degree, by having so much of the Pressure of the . outward Air taken off.

And it seems very reasonable, that in diminishing the Force of the Pressure of the outward Air upon human Bodies, the Fibres thereby will be rendered more unbraced, and confequently must create a Weakness in Muscular Motion; which is the Reason, in a great Measure, that People breathe shorter and with more Difficulty than ufual, in going up to the Tops of high Hills and Mountains; for the Air in ascending is a great deal lighter than at the Bottom,

Ch. II. thro' the various Stages of Life. By tom, and by the Diminution of the Pressure of the Air upon the Muscles, less Exercise puts People out of Breath; and likewise the Over-ballance of the Air contained in the Cavity of the Breast, may help to produce this Effect. But then perhaps it will be faid. that the Inhabitants of Mountains are not weaker nor less active than those of lower Situations: In answer to which it must be observed, that the Excess of Coldness of the Air on the Tops of Mountains above that of the low Countries, counter-ballance the less Weight of the Air, and braces the Fibres more strongly: Another Reason is, that such as live in a rarer or lighter Air, as on high Mountains, are accustomed to the Exercise of a greater muscular Strength; as in the Case of Birds performing their Motions in a thinner Fluid, must always use a greater muscular Strength, which, though Nature has accustomed them to the Use of this Element, must strengthen their Fibres; for which Reason tame Birds cannot fly so well as wild ones.

The Alterations of the Pressure of the Air in its Gravity and Elasticity, must produce proportional vibrating Motions, both in the Solids and Fluids of human Bodies; and when these Variations are frequent and extreme, such violent Motions of the Fluids and Solids must cause great Changes in human Bodies; for which there was no Necessity of having recourse to any occult or F A hidden

hidden Qualities in the Air, as a great many have imagined; and though the Air does not much hurt the Animal Fibres, by the Softness of its Contact; yet the alternate bracing and unbracing of the Fibres strongly, may produce these Changes; and such Alterations are not only producible by the Variations of the Air's Gravity and Elasticity. but likewise by its Qualities, such as Heat, Cold, Moisture and Dryness, which will be

the Subject of the next Chapter.

\* Elasticity is another Property of the Air, which is a Force equal to its Gravity; for, as the Honourable Boyle and others have proved by Experiments, the smallest Bubble of Air by its Elasticity or Spring can ballance, resist, and equiponderate the whole Atmosphere of equal Density, as far as it is exposed thereunto; for otherwise it would be more compressed than in Fact it is; and by these two Qualities of Gravity and Elasticity, and the Alterations of them, the Air produces great Effects in living Creatures; for by these, Respiration is performed, and the Equilibrium or Ballance is kept between the outward Air and that contain'd in the Veffels of the Body.

True

<sup>\*</sup> Elasticity or Springiness, which most Bodies have more or less, is a Power in a Body to return to its first Place and Condition, as a Stick which is forcibly bent; and the Air has it in a very remarkable manner, which being compressed, it endeavours with a very great Force to restore itself to its former State.

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True Air never loses its Elasticity, as Steel, Wood and other Bodies do; yet it exerts it only when it is collected into a Mass; which is confirmed by the Air-Gun; for Monf. De Roberval of the Royal Academy of Sciences, having let his Air-Gun remain charged for the Space of 16 Years, found on discharging it, that the Air's Elastick Force was not at all abated, but produced the fame Effect as at first \*. By this Elastick Force the Air infinuates itself into the Spaces of Liquors not fufficiently filled with it already; there it remains divided in its minutest Particles, and as it were in a fixed State, till it is expanded by Heat, or the incumbent Preffure is taken off, and then it is collected into greater Masses, and exerts its Elasticity in Proportion to the Diminution of the incumbent Pressure. a vianta O och

The Elasticity of the Air has been sufficiently demonstrated by various Experiments of the Air pump, and otherwise: One very plain is this; an empty Bladder, the Neck of which being tied round fast, that no Air could either get in or out, and being put into the Receiver of an Air-pump, and the external Air therein exhausted, the small matter of inclosed Air in the Bladder, will, by its own proper Spring or Elasticity, gradually expand itself, and at last will so extend the Bladder as to burst it: Thus also the Air compressed in a Wind-Gun, will, by its Elastick

<sup>\*</sup> Hift de l'Academ. Roy. 1695. p. 368.

through a Board at several Yards Distance, in the same manner as with Gun-powder.

The Solids and Fluids of Animals contain more Air in them in Proportion, than any other Substances: and Animal Solids contain more Air than Fluids; and they contain a greater Proportion of Air than any other watery Fluid: For example, Blood contains in Part of its Weightin Air, and 33 times its Bulk; whereas 54 Inches of Well-water yield only I Inch of Air; but Spaw and Pyrmont Waters yield double the Quantity of Air, to that of common Water; and therefore the Activity of Steel and Mineral Waters is owing to some aërial Particles in them: for when these are evaporated, the Waters become infipid, and without any Virtue, by the Quantity of Air loft, which the Blood and other Fluids of Animals contain, as has been often demonstrated by Experiments of the Air-pump; for they will expand themselves in an exhausted Receiver to a great Degree, in the same Manner as in the Experiment of the Bladder just now mention'd. Hence the Alteration of the Weight and Spring, or elastick Force of the Air, which dilates and expands proportionably the Liquors, with which the external Air communicates, must produce sensible Effects in animal Fluids; for as Air is a principal Instrument in the Animal Occonomy, and consequently a principal Ingredient in the Composition of all animal

Ch. II. thro the various Stages of Life. 91 animal Substances, it must in a particular manner affect animal Bodies, and by its Changes differently influence all their Operations.

Fluidity is a Property of Air, which cannot be destroy'd or congealed like Water or other Fluids, by any Power of Art or Nature hitherto known: and this Property of Fluids arises from the exceeding Tenuity or Smallness of the constituent Particles of such Bodies, and their Disposition to Motion, from the Sphericity or Roundness, and Lubricity or smooth Slipperiness of their Figures, whereby they can eafily flide over one another's Surfaces all manner of Ways, and can touch but in few Points; so that Particles thus modified, must always produce a fluid Body or Substance, as Water, Fire, &c. No Coagulation, Fermentation, or Condensation of any Mixtures where Air refides, have ever destroy'd its Fluidity; for it preserves it in Cold 44 Degrees greater than any natural Cold, which Property is absolutely necessary to an Element, in which both Animals and Vegetables live and grow.

As Water is a Fluid much denser or thicker than Air, it supports and keeps together the Bodies of larger Animals than Air can do. The Air is pellucid or transparent to such a Degree as not to be discernible even by the best Microscopes, by reason of the great Porosity thereof; for the Pores and Interstices of the Air being so very great and large, it not only admits the Light in right Lines, but in

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That Air is a Fluid in constant Motion, may be easily perceiv'd in that Part of a Room illuminated by the Rays of the Sun, entering at a small Hole or Crevice, wherein the visible and floating Corpuscles or Atoms are in continual Motion; likewise a constant undulatory Motion in the Air may be seen by the help of a Telescope; and these Undulations or Wavings of the Air to and fro, affect small and tender Bodies, but not so much

as to alter their Figure.

The Difference between Fluidity and Liquidity is, that the former is a general Name for all Bodies whose Parts yield to the smallest Force or Impression; and thus a Quantity of Sand as well as Water, is called a Fluid: But what is properly called a Liquid or Liquor, is only that Kind or Species of Fluids which cleaves to the Touch, or sticks to the Finger, &c. or, as may be said, wets it, as Water, or any kind of Juices do: And the Reason of this Difference is owing

Ch. II. thro' the various Stages of Life. to the exceeding Smallness of the Particles of Liquids above those of fluid Bodies; and alfo to their Ponderofity or Weight: for by these means, the Particles of Liquids enter the Pores of the Body which touches them,

and by their Gravity or Weight, cohere or flick to, and abide therein, and cause Wetness.

Air is compressible as well as dilatable; for it can be compressed into a less Compass, and finaller Volume, like a Fleece or Lock of Wool, either by its own Weight, or by any other Force, which Weight or Force being remov'd, it immediately recovers its former Bulk and Dimensions again by its Spring. Heat will encrease the Force of the Elasticity of the Air to a prodigious Degree, according to the Experiments of Mr. Boyle, as has been observed in the Beginning of this Chapter. To prove which by an easy Experiment, take a Bladder entirely empty as you think, and tie the Neck of it very well with a Packthread, and lay it before the Fire, the Heat will presently so dilate and rarefy the little Air inclosed, as to make it extend the Bladder to its utmost Stretch, and if continued, will break through it with a Report like that of a Pistol. That Air also may be compressed by Art, so as to take up but to Part of the Space it possessed before, has been prov'd by Numbers of Experiments made by Boyle and others; for farther Proof and Satisfaction thereof, see Sir Isaac Newton's Optics, p. 342. Al dill not and of soulis John haven Divifi-

Divisibility is a Property of Air, by which living Creatures move in it without much Resistance; for it is always divisible by the finallest Forde imaginable. Fiftes and Birds prove thro' their respective Element after the fame manner; and Fishes may be called the Birds of the Water; they pass thro' an Element which is 800 times thicker than Air, as has been observed in p. 71; for which Reafon Fishes must employ a Force proportional to the greater Resistance of the Fluid. On the other Hand, a great deal of the Force of Birds is employed to support themselves in a much thinner Fluid; but the Bodies of Fifbes are poised or equilibrated with the Water in which they fwim. However Air has some Degree of Tenacity or Adhesion, by which its Parts attract one another, as is manifest by the round Figure of Water-Bubbles, which attract and run into one another; and at the same Time the Particles of Air, by their Elasticity, have a Power in other Circumstances, of flying off from one another, which two Properties are confiftent, as may be feen in Light.

The Resistance of Air is very considerable in Bodies swiftly moving thro' it, or by its swift Motion against Bodies. In the first Case, the Resistance increases in the duplicate Proportion of the Swiftness of the moving Body; that is, the Resistance is a hundred times greater when the Velocity is but ten times; so that for this Reason, if light Bodies are moved with great Swiftness, the Air's

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Air's Resistance will throw them back in

another Direction.

Air moving with Rapidity, as in violent Storms or Winds, produces very sensible Effects in human Bodies, to which if we add the Motion of the Person moving opposite, then the Pressure will be very considerable; hence Walking or Riding against great Winds is a great and laborious Exercise, the Effects of which are a Redness and Inflammation of all the Parts exposed to the Air, being like the Effects produc'd by a foft Pres or Stripes, Heat and Drowziness, 101 : Ship

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circumambient Mir, human Bodies are offi ct-

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in their Power either, to eform or poffers,

excited in the Mind, by a great and wife Of the Qualities of AIR. OF A

THE Qualities of Air are Heat, Cold, Dryness, and Maisture; they are called Qualities of the Air, because they are change. able, and do not constantly relide in the whole Mass, nor in the Parts thereof.

By these variable Qualities of Heat, Cold, Dryness, and Moisture, the Air must of Neceffity produce various Alterations in human Bodies. For if we consider, that human Blood is a Fluid continually warm, and inclosed in a Composition of thin and slexible Tubes, to which the outward Air has Admit-

tance or Entrance by the innumerable Pafsages of the Pores of the Body: Again, if we consider this Machine, with its inclosed Fluids steaming and reaking hot thro' numberless Pores, and often changing Situation, fometimes within, fometimes without Doors, and exposed to the bot, cold, dry, or moist Air, and all the various Alterations that oc-cur in that Element; the Changes which must happen to a human Body in such Circumstances, must be very considerable, and far greater than we generally suppose or imagine; for besides the real Influence of the circumambient Air, human Bodies are affected by these Changes with a painful or pleafant Sensation, which they have not always in their Power either to escape or possess.

Heat is a Quality relative to our Senses excited in the Mind, by a great and swift Agitation of Particles of the hot Body exerting its Action or Influence on us; fo that Heat in us is only the Idea thereof; and in the hot Body, Activity and Motion, and nothing else: for no Heat is sensible, unless the Particles of the Body which act upon us, be greater than the Motion of the Organ or Part of the Body acted upon. But when the Motion of the Particles of the Body acting, is less than that of our Organs of feeling, then it causes in us the Sensation or Idea of Cold, which is only a Privation or less Degree

of Heat or Motion.

Tuber to which the

Ch. III. thre' the marious Stages of Life. 97

The Spirit of Wine in Thermometers or Weather-Glasses, is affected with the least Alterations of Heat and Gold; and therefore is the best Guide to know the Variations of the Weather, the the Degrees marked in the Tubes of them do not exactly measure their Quantity. The natural Heat of a grown Penson is 92, and of Children 94 Degrees; but no Animal can live long in Air of 90 Degrees, or near the natural Heat of the Body.

The Rarity or Thinness of the Air renders it more sensible of the Alterations of Heat and Cold, than any other Fluid whatever; for the least Increase of Heat dilates it, but a Diminution thereof contracts it immediately. The Degrees of Expansion of the Air cannot be determined; for the greatest Heat will not totally expel it, but by this continual Expansion and Contraction, by different Degrees of Heat, it is kept in constant Motion.

Heat, but not so great as to destroy animal Solids, relates the Fibres, and rarifies the Humours; whence proceeds the Sensation of Faintness and Weakness, and whence lanquid and hysteric People suffer in a hot Day;

for the Fluids are dilated, as is manifest to both the Sight and Touch, and the external

Thermometer or Weather-Glass, is a Glass Tube filled with Spirit of Wine of a red Tincture: It is an Instrument of great Use in the Hands of skilful Persons, in discovering the Degrees of Heat and Cold in Air, animal and vegetable Bodies, Liquids, Hot-Beds, &c.

cold Weather.

Excessive hot Air is capable to reduce animal Substances to a State of Putrefaction, and therefore very hurtful to the Lungs in particular; for the Blood, by its Circulation thro the Lungs, is heated to a degree so as to render it spumous; and the Surface of the Vesicles of the Lungs being exposed to the external Air, which has a free Communication to it: fo that Refrigeration by cool Air is one, tho' not the principal Use of Air in Respiration: but when the outward Air is many Degrees hotter than the Substance of the Lungs, it must necessarily destroy and putrify the Solids and Fluids: Which is confirm'd by an Experiment of the learned Dr. Boerbaave, who relates, that he put a Sparrow into a Sugar-Baker's drying Stove, where the Air was heated 54 Degrees more than the natural Heat of Human Blood, which died in two Minutes; a Dog being put in began to pant very much for Breath in seven Minutes, and in a Quarter of an Hour express'd very great Uneafiness; soon after he grew very faint, and expired in 28 Minutes; he drivell'd a great Quantity of red Foam most part of the Time, which flunk so intolerably that a labouring Man that went near it was almost struck down instantly with the Stench. Dr. Boerbaave obferves in this Experiment the direful Effects of this Degree of Heat, how foon it occasion'd a most acute Disease, with violent and mortal Symptoms;

Ch. III. thro' the various Stages of Life. 99 Symptoms; and how suddenly the Humours were changed and thoroughly putrified in 28 Minutes: He moreover observes, that these were not the mere Effects of the Heat of the Stove; for if the Flesh of a dead Animal had been hung up there, it would have dried, and not turn to a pestilential Corruption; which must arise from the Friction caused by the Circulation of the Blood through the Lungs, and being not in the least refrigerated, as in this Case.

By the Degrees of the Heat of the Air acting upon Human Bodies, the Quantity of \* Perspiration both sensible and insensible is regulated; for, by the Journals of the industri-

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state .

<sup>\*</sup> Perspiration is twofold, sensible and insensible; by the first is meant what we discharge by Spittle, Sweat, Urine and Stool; by the latter is understood what is imperceptibly exhaled or expell'd through the whole external Skin of the Body, as also from that of the Mouth, Noie, Jaws, Larynx, Lungs, Gullet, Stomach, Intestines, Bladder and Womb; so that the Quantity of it exceeds that of all other Excretions join'd together: for when the Body is ftrong and healthy, and after moderate living, especially in a warm Climate, such as Italy, that which is discharged insensibly by the Pores of the external Skin, Mouth, Nostrils, &c. is sive Eighths of what is taken into the Body in Meat and Drink. It will not appear incredible, that animated Bodies should thus perspire, when we find by Mr. Boyle's Experiments, that he has observ'd the like even in the most solid and inanimate Substances. Besides, we see the Air, when return'd in Respiration from the Lungs, brings along with it a Vapour, which in cold Weather condenses into considerable Drops. We likewise find that a Finger, or any other Part of the Body, or our which, applied to a Glass, or polish'd Mesal, will presently moisten and tarnish it. This perspirable Matter, according to the learned Boer. baave, is a Mixture of Phleem, volatile Salt, and Oil, in certain Proportions; and after a long Course of Circulations in

# ous and learned Dr. James Keil of Northampton, it appears, that the Perspiration in England scarcely equals all the other Excretions, and that in Summer it is near double to that in Winter; whereas we find, by the incomparable Sanctorius's Apportions, that the Perspiration in Italy the Year round is to all the other Evacuations as five to three, and probably the Proportion may be still greater in horter Chimates; and yet the same Authoritells us in Aphorism vii. Sect. I. that the Quantity of insensible Perspiration varies ac-

all the Forms of the Animal Fluids, is deprived of all that can be of farther Use to any Part of the Human Body; and is Secreted by the capillary Arteries, and passes off insensibly and almost invisibly through the Pores of the Skin, and other Parts of the Body. But whenever this Evacuation is either dimihish'd or obstructed, it is almost an installible Indication of Diseafes, and probably the Caufe of them likewife. And Nature has so provided, that if by any external Caule this Evacuation is hinder'd in any one Part, it is always increased in another. or otherwise a Diftemper will enfue; for which Reason when the Coldness of the Air, which more immediately affects the outward Skin, or any thing elfe lellens the Discharge of infenfible Perspiration that Way, either the sensible Bracuarions are increased, as commonly the Urine, or greater Chantities are carried off by Respiration from the Lungs and Pares about the Mouth, as we see in frosty Weather, like Smook out of the Mouth; or else it is perspired into the Cavities of the Stomach and Guts, which afterwards is discharged by breaking of Wind either upwards or downwards: For as long as the Impelle within remains the same, wherever there is the least Re-fillance, there will be always the greatest Derivation of the perspirable Matter. And from hence it is, that we so frequently find, when the Body is more than usually exposed to the external Cold, Gripings, Loofnesses, Colics, and great Uneasinesses in the Bowels, which is nothing else but some Part of the perspirable Matter, that ought to have passed the outward Skin, check'd by the Cold, and by an opener Pasfage"

cording to the Differences of Consistutions. Ages, and Countries, Seasons, Distempers, Diet, and the rest of the Non-naturals? Which must occasion a great Diversity of Constitutions and Distempers, according to the different Climates; for the serous Part of the Blood is carried off by Sweats or sensible Perspiration, in far greater Quantities in hot Countries, than in cold or temperate Climates, which must consequently render the Crassamentum or sibrous red Cake of the Blood larger; hence we may know the Reason why the Blood of People residing in those hot

fage within thrown off that Way. Leasurenbook, by the Help of Glaffes, has discover'd the Texture of the Starf-Skin to be scale; and that those Scales cover one another in several Lays, more or less, according to the different Thickness of the Scarf-Skin in the several Parts of the Body; and that in the Compass of one cuticular Scale he reckons there may be 500 Exerctory Channels, and that one Grain of Sand will cover 125000 Orifices; and that from these a most subtile Humour continually transpires in all the Parts of the Body; which was first observed by the incomparable Santiorius, to whom alone the Glory and Persection of this Discovery is entirely owing.

Insemble Perspiration therefore, both as to the Matter and Quantity of it, is so absolutely necessary to the Health of a human Body, that a Dissemper can neither be removed, nor Health preserv'd, unless it be rightly digested and discharg'd: For which Reason it ought to be of the utmost Concern to a Physician not only thoroughly to acquaint himself with the Nature of this Evacuation, but likewise thoroughly to know by what Means it is to be promoted or lessen'd, according to the several Exigencies of his Patients, either for the Preservation or Recovery of their Health: For according to the last mention'd Author, in Aphorism is Sect. I. 'If a Physician who has the Care of another's Health is acquainted only with

has the Care of another's Health is acquainted only with the sensible Supplies and Evacuations, and knows nothing of the Waste that is daily made by insensible Perspiration, he will only deceive his Patient, and never cure him unless by

<sup>·</sup> Accident.'

Countries is commonly thick and black when drawn from any Part of a human Body, as

Experience teaches.

Air is not cooled by the Motion of Winds, but by the Air of cooler Regions that they bring along with them; for the Thermometer will not change by Winds or by the strongest Blasts of Bellows, unless it is blown through Ice or some other Body colder than Air, according to Mr. Boyle's Experiments, but then fuch a Blast will fink it considerably. Winds cool animal Bodies by driving away the hot Steams that furround them; for if we suppose that the Heat of a human Body is 90 Degrees, and the Heat of the Air 48 by blowing off the hot Steam, then the animal Body will be furrounded with an Atmosphere of 48 Degrees, and confequently near the one half of its natural Heat taken off in a Second of Time. Therefore, if immediately after Exercise we rest in a cold Air, we run a great Hazard of falling into great Diseases, of which there has been frequently woeful Instances, especially such Distempers as affect the Lungs, as Inflammations, Afthmas, Pleurifies and Catarrbs; for this Change of their Atmosphere happening every Second of Time, is much the fame thing as putting on a cold Suit of Cloaths every fuch Time.

Therefore, as human Bodies may be cool'd by Air cooler than their own Temperament, so there may be great Use made of temperating severish Heat by the outward Air, pro-

Ch.III. thro' the various Stages of Life. 193 vided it be done with Caution; which is very well known by Experience, as in inflammatory Diseases, such as the Small-Pox, Measles, &c. scarcely can any Liquor taken inwardly cool human Blood sooner than cool Air; for, by its Admiffion into the Pores of the Skin, and its being in immediate Contact with the Veficles upon the Surface of the Lungs, it cools the Blood in a very little Time: So that great Mischief frequently happens by keeping the Air of the Rooms of People in Fevers too hot, by depriving them, in the first Place, of the Benefit of being refresh'd by it, and in the next, by the bad Effects of animal Steams pent up in the Room, which spoil the Air and destroy its Elasticity or Spring. Therefore it is the Opinion of the most celebrated Physicians, that renewing and cooling the Air in a Patient's Room, by giving it a free Admiffion, in opening the Door fometimes, the Bed-Curtains, and in some Cases the Windows, or letting it in by Tubes or Pipes, in order to change the hot Atmosphere about the Patient, (provided the Intention of keeping up a due Quantity of Perspiration is not disappointed) and in general the right Use and Management of the Air, is one of the principal Parts of a Regimen in all inflammatory Diseases; but, through the Ignorance and scrupulous Care of Nurses, in so material a Point as this, the Distemper is frequently increas'd, lengthen'd, and at last proves fatal; and this Mistake proves far more dangerous to strong, vigorous.

vigorous, compact, and heavy Constitutions, than to lax ones; according to this Axiom, Heat is detain'd in proportion to the Denfity

of Bodies.

Cold is a Privation or Diminution of fo many Degrees of Heat, as I have observ'd already in Page 96, and it produces a proportionable Abatement of the Effects of Heat; fo that, from what has been faid already concerning hot Air, the Effects of cold Air may be inferr'd. Cold Air, according to Philosophers and Naturalists, is the immediate Cause of freezing; it first begins in the Air, by congealing the watery Particles in it; but the Effects of this Cold sometimes do not reach fo far as to freeze the Water on the Surface of the Earth; as in Summer Hail and Icy Showers.

Cold condenses the Air in proportion to the Degrees of it; and likewise contracts animal Fibres and Fluids, which are denser; for as Cold braces the Fibres, not only by its condenfing Quality, but likewise by congealing the Moisture of the Air which relaxes; fo for this Reason Animals in cold Weather are of less Dimensions than in hot Weather. Extreme Cold produces at first a pricking Sensation in human Bodies, and afterwards a glowing Heat, or a small Degree of Inflammation in all the Parts of the Body exposed to it; and by bracing the Fibres more strongly, thickening the Fluids, and stimulating, it produces Strength and Activity in human Bodies,

Ch. III. thro the various Stages of Life. 105 of which healthy People are very fentible in clear and frosty Weather box

Now, if the Effects of cold Air be so confiderable upon the Surface of the Body, why may not they be much more so upon the Lungs, wherein the Blood is much hotter, and the Membranes or Coats very thin, and in immediate Contact with the external Air? But were it not that the warm Air is not altogether expell'd out of the Lungs in Expiration, the Contact of the cold Air would be insupportable to human Creatures; and the Effects of cold Air in producing Inflammations of the Lungs in all Nations is common, especially upon the blowing of cold north-easterly Winds in Europe, or north-westerly Winds in America.

Cold suppresses some of the grosser Parts of the perspirable Matter, by which Means a great many Salts, that would be exhaled in warm Weather, are detain'd, by contracting the Pores of the Skin, and cooling the Blood too much in the Vessels that are exposed to the Air; as also by a Stimulus the cold Air vellicates and inflames these Vessels, as has been observ'd already, and at the same time producing Seurvies with dismal Symptoms, being a Distemper of cold Climates; the fatal Extremities of which we may fee in Captain James's Journals, in Gerat de Veer's a Hollander, and in Captain Middleton's, and in those of many others, who have winter'd in Greenland, and other cold Countries; for the Cold that froze their spirituous Liquors

Liquors produc'd almost the same Effect in their Blood, by reducing the animal Substances of some to a gangrenous State, with Mortifications of their Limbs and Gums, being oblig'd to cut off the putrid or rotten Flesh; a total Incapacity of chewing, not capable to move themselves, and intolerable Pains in many Parts of the Body, with black and blue Spots and Blifters on their Skins; and by fuppressing Perspiration, and retarding the Circulation of the Blood, others were feiz'd with Giddiness, Sleepiness, Pains in the Bowels, Loofeness, Bloody-Fluxes, Iliack Passiens, and a Mortification in the Guts; but seldom any Loss of Appetite, which is very surprizing: All fuch difmal Symptoms could not be attributed to the Effects of Salt Provisions, in as much as they frequently had fresh both animal and vegetable.

Extreme Cold or extreme Heat will destroy animal Substances, or reduce them to a
gangrenous State, but with this Difference,
that a Degree of Cold that will produce a
Mortification in living Bodies, will preserve
those that are dead from Putrefaction; and
in order to produce such a Change, there must
be a Concurrence of Heat and Motion in the
animal Fluids with the Stimulus of the Cold
to produce the Change; for which Reason,
Blisters cannot be raised on dead Bodies by the

strongest blistering Plaisters imaginable.

Moisture is a Quality of Air which affects animal Bodies in relaxing and lengthening their

Ch.III. thro' the various Stages of Life. 107 their Fibres; for it has been often demonstrated by Experiments, that the fingle Fibres both of Animals and Vegetables are lengthen'd by moist Air, and that it relaxes is likewise evident from daily Experience upon Leather, Vellum, Paper, and a Drum. By cold Bathing there is a momentary Contraction of the Fibres of the Body effected by the Coldness of the Water only, and the Sensation of which works as a Stimulus in human Bodies: but the Water in its own Nature would relax, and continually does so, if we remain too long in it; which is the Reason that People using the Cold Bath are order'd not to stay in above half a Minute, or a Minute: and warm Water relaxes a great deal fooner than cold, and Swimming fatigues and dispirits more by relaxing the Fibres than Exercife.

Air, by the Affistance of Moisture, will sooner insinuate itself into the Pores of Bodies than otherwise; for a dry Bladder will sooner burst than let Air pass thro' it, but when it is moisten'd it easily passes. Yet Moisture diminishes the Elasticity of Air, for in rainy Weather it is less Elastic; so that Moisture relaxes human Fibres, by weakening the Spring of the Air; but dry Air will lessen those Effects, or produce their Contraries, such as bracing and contracting the animal Fibres, which were before both relax'd and lengthen'd by too much Moisture. And a great many Symptoms which People

are fenfible of in moift or rainy Weather. are chiefly owing to the Relaxation of the Fibres by moist Air, by which means they lose fome Degree of their elastic Force for circulating the Fluids; hence arise those Aches and Pains which are felt in the Parts of the Body, where the Circulation of the Fluids is not perfect, as in Cicatrices, or Scars of Wounds, old Sprains, Diflocations, or bruifed Parts. Likewise a moist and foggy Air, especially where the Country is low and marshy, will so weaken the Tone of the Vessels, as to hinder a proper Discharge of what ought to be carried off by insensible Perspiration, according to Sanctorius \*; and particularly weaken those of the Lungs, by which means the Viscidity of the Blood will be increased; hence arise Coughs, Catarrhs, Confumptions, Asthmas, Pleurifies, Head-aches, Dulness, and Stupidity, Epilephes, Hoarfenefs, cutaneous Eruptions, pale and languid Complexions: and fuch People are also subject to scorbutic Habits, weak Appetites, Fevers of different kinds, Diarrhaas, Dysenteries, and Drop-

When the Air is overcharg'd with Vapours near the Surface of the Earth, and

\* Med. Stat. Sect. z. Aphor. 8.

<sup>+</sup> Hippoc, Aph. 16. lib. 3. & lib. de Aëre, Aqua & Locis; in which last Book Hippocrates tells us, that the Phasians, who inhabited a low and marshy Country, were frequently subject to the above-mention'd Distempers, and which is commonly, and almost always the Fate of all such Situations, as both History and Experience teach.

when those Vapours are more in a falling than in an ascending State, it is then properly called moist Air; tho' the Body of the Air may contain more Water in it at other times; but then the Water and Air are more intimately mix'd, and the Vapours are higher, and a less Quantity of them in contact with our Bodies; so that Air in such a State may be faid to be in a State of exhaling and imbibing, and at other times in a State of precipitating its Waters and other Contents.

Dryness is another Quality of Air, by which it produces Effects contrary to those of moist Air: and as dry Air exhales and imbibes volatile Spirits, and Oils of animal Bodies, so it does consequently influence Perspiration. But great Dryness is capable of changing the very Texture, as well as the Situation of the Pores of the Skin of human Bodies; and either extreme Dryness, or extreme Moisture have very often proved dangerous, if not fatal to human Bodies; and tho our Bodies are not capable of bearing Excesses of any kind, yet of the two, extreme Dryness has been found most destructive to animal Bodies.

By the Properties and Qualities hitherto enumerated and explain'd, Air must produce very great Alterations in human Bodies; for it does not only operate by outward Contact, but we likewise imbibe it at all the Pores of the Body, as is evident by what has

been

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been said already; otherwise the Air could not have a free and constant Admittance into the Body, and consequently the Ballance between the outward Air, and that within the Vessels, could not be so quickly restor'd; and it is upon the due Ballance of the Air within and without the Body, that the Life

of all Animals depends.

The Skins of Animals dry'd exclude Air; but those of living Creatures being moist and oily, it will eafily pass thro' them; for whereever there are Emissaries, there are also abforbing Vessels: And to prove this Affertion farther, many Bodies a great deal thicker and heavier than Air, such as Mercury, Spanish Flies, and Garlick, &c. readily enter the Pores of the Skins of animal Bodies. So that while we perspire, at the same time we abforb part of the outward Air; and the Quantity of perspir'd Matter, discover'd by the Method of weighing, is only the Difference between that and the Air absorb'd; therefore after great Labour and Abstinence, which produces an Emptiness in the Vessels, and consequently a great Diminution of Perspiration, it is very probable, that in such a Case, the Quantity of the Air absorb'd may exceed that of the perspir'd Matter: which must be true, if Sanctorius's and Dr. Keil's Journals of Perspiration be faithful and exact; for there is an Instance in the Doctor's Journals, of a Person's growing 18 Ounces heavier by absorbing Air. The Doctrine of absorbing

Ch.III. thro' the various Stages of Life. 111 absorbing Air thro' the Pores of the Skins of living Creatures, was taken for granted both by Hippocrates, Galen, and their Followers, which has been fince confirm'd and demonstrated by that accurate and most ingenious Observer of Nature, Mr. Hales, in many Bodies, particularly in Vegetables, by plain and easy Experiments; by which it appears, that Air freely enters thro' the Bark, Stem, Leaves, and all the Surface of Vegetables. By absorbing external Air, with all its Qualities and Contents, many great Effects must necessarily follow, and many sudden Alterations happen in human Bodies; and nothing can account more clearly for epidemical Distempers seizing People inhabiting the same District of Land, and who have nothing else in common that affects them, except Air, which is confirm'd by \* Hippocrates, + Sydenham, and many others.

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<sup>\*</sup> Hippocrates, Epid. lib. 3. Sect. 3. & lib. de Aëre, Aq. & Locis.

<sup>+</sup> De Febribus intermit. Thucydid. lib. 2. p. 130, 147.

Diod. Sicul. p. 101, 102.
Hallerius libel. de Peste, p. 577.

Hippoc. lib. de Flatibus, p. 297. & lib. 6. de Morb. popular. Sect. 8. p. 1199.

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#### CHAP. IV.

Of the Influence of AIR upon Human Bodies.

on human Bodies is as different as the Diversity of the Weather, Seasons, Climates and Countries; but the true Knowledge of it is very obscure and imperfect, especially in that Part which will be always difficult to find out, that is, the different Qualities of the Air, and the manner of their acting upon human Bodies; yet if Journals of Diseases, compar'd with the Weather, had been kept for some Centuries in many Places and Kingdoms, we should at last have come to more than a conjectural Knowledge of this important Matter.

The divine Hippocrates, after a Series of many Years indefatigable Practice and just Observations, has dest us in his Books of Epidemics, and third Section of Aphorisms, an inestimable Treasure of Golden Rules to go by for this Purpose; and the had neither \* Barometer, † Thermometer, nor ‡ Hygroscope

<sup>\*</sup> Barometer, See Page 79. Note 1.

<sup>†</sup> Thermometer, vid. p. 97. Note \*.

† Hygroscope is a useful Instrument to be made several Ways, for measuring the Moisture and Dryness of the Air.

Ch. IV. thro' the various Stages of Life. 112 groscope, to measure either the Weight, Heat, Cold or Moisture of the Air by, yet knew more of the Influence of Air on human Bodies, than all his Predecessors and Succesfors put together; for none of them ever made such just and curious Observations upon Air, and its Effects, as he did, which plainly appears in his Works: he judg'd only according to Reason and his Senses, which are furer Guides than the Thermometer, in respect to the Effects of Heat and Cold upon our Bodies; for by the Thermometer, stagnant Water is of the same Degree of Heat as the ambient dir, but if apply'd to our Bodies, we shall feel it much colder; therefore, Air abounding with more or less watery Particles, is colder or hotter to our Senses, tho' the Thermometer still remains at the fame Height.

This fagacious Great Man tells us, that the Whoever would understand Physic, it is first necessary to understand the Seasons of the Year, and then their Effects on our Bodies; and that + we ought to know the Constitutions of the Air, what they are, and in what Times and Regions they mostly appear. He says likewise, 1 That Distempers seldom arise from any other

According to Lord Verulam's Observations, Water seems colder than Air; and the Froth of any Liquor feems warmer than the Liquor itself; and the Powder of any solid Body, warmer than that folid Body, tho' the Thermometer still prover the same Degree of Heat in each to be alike. Hist. Nat. & Experiment. de Ventis; cap. de forma Callidi, p. 143/

Hippoc. lib. de Aere, Loeis & Aquis, p. 280.

Hip. lib. 4. p. 3 t38. de morb, Épidem.

Cause than the Air; for either it is too much or too little, or abounds with infectious Filth. He tells us in another Place ||, That the Air is to be considered as to its Heat or Cold, Thickness or Thinness, Dryness or Moisture,

and their several Changes.

According to his Instructions, we are likewife & to confider the Situation, Air, and Water of a City, in order to come at the Knowledge of their popular Diseases, and their Seasons: for Instance, that Cities exposed to the 1 hot Winds, such as blow between the rifing and fetting of the Sun in Winter, to which Situation such Winds are peculiar, and at the same time are defended from the Northerly Winds, abound with Water of a faltish Taste, which as it comes from above, must needs be warm in Summer, and cold in Winter; but Cities that are well fituated as to the Sun and Winds, and at the same time supply'd with wholsome Water, are free from many Distempers, which those in different Circumstances are subject to, as has been already mention'd: that if the Summer proves dry, the Diseases are of a shorter Duration than in a wet one. in which they prove obstinate, and apt to degenerate into Suppurations, Heat and Moisture in the Air producing Putrefaction: that Defluxions.

I Idem de morb. popular. lib. 6. p. 1199.

Hip. lib. de Aëre, Locis & Aquis.

† Hippocrates means in this Place a Southerly Situation, and the Winds that blow from thence.

Chelv. thro the various Stages of Life. 113
Defluxions, much Phlegm, and Hoarfeness are occasion'd by cold Weather: that Defluxions from the Head, and Disorders of the Belly, from Phlegm distilling downwards, producing Fluxes, were the Effects of the Winter, which made Women subject to Miscarriages, and Children to Convulsions; likewise such as were exposed to Cold, subject to Inflammations of the Eyes and Lungs.

This great Man could foretell the Difeases from the Weather, and fays, that Heat coming upon a wet Seafon will produce ferous Defluxions upon the Head and Belly, and acute Fevers. That cool Weather, about the Dog-Days, if not succeeded by a temperate Autumn, is dangerous for Women and Children, producing Quartan Fevers, and from these they fall into Dropsies: if the Winter is mild and rainy, and fucceeded by Northerly Winds in the Spring, it will be dangerous for Women that happen to be with Child, producing Abortions, likewife Deflaxions upon the Lungs, Dyfenteries and Colicks in the Phlegmatick, and Inflammations in those that are Bitious, because of the Heat and Dryness of their Flesh; and that Obstructions after Relaxations produce Palfies, and fometimes sudden Death in old People.

A rainy Summer and Autumn must needs make a fickly Winter; burning Fevers will happen in People above 40 and Phlegmatic; in the Bilious, Pleurises, and Inflammations of the Lungs: but if the Summer be dry with

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Northerly

Northerly Winds, succeeded by a wet Autumn with Southerly Winds, Head-aches and paralytick Diseases are likely to happen in the Winter; likewise Hoar feness, Stuffings in the Head, Coughs and Confumptions: but a dry Autumn with Northerly Winds is profitable to phlegmatic Constitutions, and extremely hurtful to the Bilious, the watery Parts which dilute the Gaul being exhaled.

He fays farther, that whoever confiders these Things, may know before-hand the greatest Part of what will happen from the Changes of the Seasons, and advises to confider the Constitution of the Air in Operations of Surgery; excepts against cutting for the Stone in the Solftices\*, especially in the Summer Solftice. anipuborg godfind bus

The divine old Man goes still farther, and fays, that the Affair of Generation is influenc'd by the Difference of the Constitutions of the Air, and that fuch a Variety should thus happen in the Formation or Mixture of the Semen, which is not always the same in the same Person, in Summer and Winter, in wet Weather and dry, that it is oftner corrupted in the Formation or Mixture of it, where the Seasons change frequently, than

Solftice is the Time when the Sun being come to either of the Tropical Points, is got farthest from the Equator, and seems to be at a stand for some Days before it returns back, which happens twice a Year in the Summer and Winter. The Summer Solfice is when the Sun entering the Tropick of Cancer on June 11. makes the longest Day, and the shortest Night.

Ch.IV. thro' the various Stages of Life. 117 where they remain pretty near alike. He likewise attributes the different Shapes, Complexions, Tempers of Mankind, and even their different Forms of Government, to the Influence of the Air: that the fertile Countries of Asia, upon the account of moderate Heat and Moisture, produce large and handfome Animals; and that the Softness of their Climate disposes them to Mildness and Efferminacy, not enduring Labour or Hardships of any Kind, like the Greeks, frequent Changes in the Body, produced by Labour and the Alterations of the Weather exercifing both Body and Mind; for which Reason the Afiaticks are less bold and couragious, they are flavish and subject to Masters; and tho' they are forc'd, yet they are not willing to quit their Ease and Families, or to endander their Lives for the Power and Wealth of others, in Expeditions from which they are to reap no Advantage to themselves: that on the contrary, the Greeks and Northern Afaticks were bold, hardy, and full of Courage; and that, being at their own Disposals, willingly underwent Dangers and the greatest Difficulties, because the Reward of the Victory was to be their own.

He says besides, that as the Equality of the Temperature of the Seasons render'd the Afiaticks indolent and lazy; so the great variety of Heat and Cold, by differently affecting Body and Mind, render'd the Europeans couragious and active; Activity, Labour, and

H 3 Exercise

Exercise begetting Bravery, and Bravery begetting Laws to secure Property; and being govern'd by such, they were enabl'd to reap the Benefit of the Fruits of their Industry, which those that live under Absolute Monarchy are not capable to enjoy: Here this great and wise Man expresses his

Dislike to Despotick Government.

The Phasians \*, says he, are tall, soft, bloated and pale, on account of the excessive Moisture of the Air they breathe; for their Country is marshy, hot, watery, woody, and fubject to violent Showers at all Seasons, and such Effects proceed from lax Fibres occasioned by excessive Moisture; but such as inhabit Mountainous Places, where they are of a large Make, have a variety of Weather, and are bold, fierce and active; and the Inhabitants of fertile Plains, with stagnating Waters, are the reverse; for a fat Soil produces dull and heavy Understandings. The Inhabitants of barren and dry Soils, with cold Winters. are passionate, warm in their Tempers, positive, proud, and of a quick Understanding.

In one of his Books ‡, he attributes the Causes of all Diseases, especially of the Pestilential, to proceed from the Influence of the Air: And in another Place +, he farther

The Phasians were Inhabitants of the City Phasis, in the ancient Kingdom of Colchis, upon the eastermost Side of the Black Sea, between Georgia and Circassia, not far from the ancient Sauromata.

T Hippoc. lib. de Flatibus.

<sup>+</sup> Hippoc. lib. de Morbo Sacro.

Ch. IV. thro' the various Stages of Life. 119 ther affirms, that Air gives Sensation, Life and Motion to all the Members of Animal Bodies: for which Reason he strenuously recommends Astronomy as an essential Part of the true Knowledge of the Art of Healing; and fays, that if any one should think it to be only Meteorological Speculations, he may foon learn, if he can part with his Opinion, that Astronomy is so far from being of little Use in Physick, as to be of the greatest; for as the Seasons change, so do the Constitutions of Men likewise §: And to prove the Usefulness of Hippocrates's Doctrine and Opinion in this Particular, we need only confult a Treatife of a Cotemporary learned Author, who is not only an Honour to his Country, but likewife an Ornament to his Profession, wherein we shall find not only the Usefulness of Astronomy in the Art of Physick, but likewise the Influence of Air upon human Bodies geometrically demonstrated +.

Hippocrates goes on still farther in the same Book, and says, that where the Variety of the Weather is oftenest, and the Disserence between the Seasons greatest, there the Nature, Customs, and Habits of the People will be found most different, which are the principal Causes of all the Changes in Nature; and next to these, the Country wherein we are brought up, and the Waters we are obliged to drink; for we shall

<sup>§</sup> Hippoc. in his Book of Water, Air, and Situation.
† Riebardus Mead de Imperio Solis & Lunæ in Corp. Hum.

shall generally find that the Complexions and Manners of the People correspond with

the Nature of their Country.

He has left us a curious History of Diseases, and the Weather, in his valuable Books of Epidemics, from whence he drew many useful and nice Observations; and where we may fee a vast Conformity between the Constitution of the Air, and that of Diftempers, throughout the whole Work.

The Constitution mentioned in his 1st Section, was a wet Autumn, the Winter dry, with foutherly Winds and very little northerly, the Spring cold, with foutherly Winds, a little wet, a cloudy and dry Summer, with little or no northerly Winds to cool the Air; in this Constitution he observ'd some few burning Fevers of a good fort, some with Hamorrhages; a great many had 'Swellings behind both or one Ear, but generally without a Fever, and disappear'd without much Inconvenience or Suppuration.—

The Constitution of the next Year, related in Section the Second, was a wet Autumn, with northerly and foutherly Winds; the Winter was moist and affected with cold northerly Winds, attended with great and heavy Showers of Rain and Snow, and a cold and northerly Spring, both watery and cloudy; the Summer not very Scorching, and was continually affected with northerly Winds, and a great deal of Rain fell again fuddenly; so that the whole Year being cold and moift,

Ch. IV. thro' the various Stages of Life. 121 moist, and attended with northerly Winds for the most part, produced Instammations of the Eyes in the Spring, and in the Summer, Colicks, Fluxes of the Belly, with Bilious Purgings, and sometimes Bilious Vomitings with Phlegm and indigested Food, some with Cattarrhous Fevers, others again without Fever or Confinement; but they all in genenical sweated, Moisture being then so redundant every where.

In the Autumn and Winter continual Fevers appear'd; there were likewise diurnal, nocturnal, tertians, semitertians, some quartans and erratick Fevers; besides some were afflicted with Catarrhs and Desluxions upon their Joints; Convulsions were also frequent among Children; all such Diseases being the natural Product of a Cold and Moist Year, affected by too much Moisture in the Air, which human Bodies continually breathe and

imbibe.

He tells us in his third Section, that the Constitution of that Year was a cold dry Winter attended with northerly Winds, as was likewise the Spring and Summer till towards the beginning of the Dog Days, then scorching Heats and Droughts continu'd till Autumn, which prov'd to be moist and rainy: This Year was remarkable for Paraplegias or Palsies, which were epidemical in the Winter; likewise Hæmorrhages of all Kinds and Dyfenteries reign'd in the Spring and Summer, being the Effects of a Constriction of the Fibres,

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burning Fevers with Delirium and Thirst, beginning with Shiverings, Watchings, Nauseas, and Anxiety continued, which were most dangerous and satal to young and vigorous People, especially in the Autumn, but most of all in the Winter, when the Hæmorrhages ceas'd.

In his Second Book he attributes the great Frequency of Carbuncles and other large Pustules of the putrid kind in Summer to the great suffocating Heats attended with Calms and Moisture; and that Sweats fucceeded Showers, because Moisture relaxes the Fibres of the Body; that inflammatory Difeases, such as burning Fevers, Pleurifies, &c. are most violent in adry and hot Summer; that in constant and settled Weather and Seasons. the Distempers will be more equal and of a good Sort and eafily determined; but that if the Weather is variable they will likewife be irregular and resolv'd with difficulty; that the Diseases of the Spring are least destructive of any of the other Seasons: He likewife remarks that a mild Winter, attended with foutherly Winds, a dry Spring, and a moist Summer with small Rains, produced Fevers, and Tumours or Swellings behind the Ears.

In his third Book he observes a kind of a Pestilential Season, which proceeded from a hard Winter, a rainy warm Spring, succeeded by an excessive hot Summer with little or no Winds; it was notable for all inflam-

matory Pimples and Eruptions upon the Skin, and likewise for all Distempers of the putrid Kind, such as Eryspelas, Aphtas and Ulcers in the Mouth and Throat, burning Fevers with Deliriums, Tubercles upon the Private Parts, Instammations of the Eyes, Carbuncles, Swellings in the Groins, Abscesses and Desluxions upon the Joints, some with Suppurations of Pus well digested, and others again with a copious Running of putrished Matter of different sorts.

He remarks in his fixth Book, that the frequent Alterations of the Winds from South to North, are very often the Cause of Inflammations of the Lungs and other Parts of the Body; and that, generally speaking, the Nature of the Diseases is determined by the Seasonableness of the Weather, as it happens sooner or later, either dry, cold, hot, moist, and attended with Winds or otherwise.

From these sew Instances, we may easily discover the great Genius, Sagacity, and Industry of this Divine old Man, as likewise with what Assiduity and Integrity he apply'd himself to study the Nature and Instuence of the Air upon human Bodies; wherein he succeeded better than any one of his Profession: And if his Successors had laid aside all their ridiculous, and, as I may say, absurd Hypotheses, together with their useless metaphysical Speculations, and followed the same Method with the same Perspicuity and Honesty as he did, to this present Time, we then should have had more than

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than a conjectural Knowledge, both of the Nature and true Causes of Diseases, especially of Epidemics, which at this Time puzzle even the greatest Physicians. Therefore Reafon join'd with Observation is the only certain Method we should pursue in order to come at the true Knowledge of Diseases and their Cure; for it evidently appears in the Annals of Physick, that the small Number of Phylicians who have happily attended to it, made so considerable a Figure in their Profession, that they will always shine, even to the latest Posterity.

The ingenious Dr. Arbuthnot having explain'd Hippocrates and others upon the Subject of the Influence of Air on human Bodies and Diseases, so accurately well, according to Mechanical Principles, that nothing can excell it; therefore, I thought it not only proper, but likewise very useful and necessary to give the Reader an Abstract of what he fays upon that Head in this

Place.

He observes, that as this Subject has not been treated of by modern Physicians with that Accuracy it deserves, Observations of that kind are but few, and there is no Series of them in any Country: What would give most Light in this Matter, is a Collection of Observations in Countries where both the Qualities of the Air have great Excursions towards Extremes, where the Seafons and these Excursions, and the Diseases depending

Ch. IV. thrd the various Stages of Life. 125 upon them are regular. Egypt is a Country which answers all these Intentions in some Degree: It is situated between Etbiopia, the Mediterranean Sea, Arabia and Barbary, which lie, in the Order mention'd, South, North, East, and West of it. Grand Gairo, where Prosper Alpinus, a very eminent Physician, practis'd and made his Obfervations, lies in 30 Degrees Northern Latitude, as Ptolomy fays, 6 Degrees beyond the Tropick of Cancer. This great City is situated at the Foot of the Mountains of the Stony Arabia, which lie towards the East. It is quite expos'd to the northerly Winds which blow over the Mediterranean: Southerly of it there is a hot fandy Soil; so that the Alterations of Heat and Cold, as the Winds blow North and South, over the Mediterranean, or over this hot Sand are excessive, and the Alterations of Heat and Cold from the other Winds but small, lying near the Tropick'; and as it is a fandy Soil, fructify'd only by the Slime of the River Nile, without Rain, there is hardly any humid Perspiration from the Ground itself, the Air receiving Moisture only from the watery Surface of the Nile during the Inundation, or from the Vapours brought from the Mediterranean by the northerly Winds.

From these Causes the Air is extremely hot, and the tropical Heats would be insufferable, were it not for the Northerly Winds.

And in fact, the Heats are sometimes so vehement, that the Inhabitants defend themfelves from them by many Contrivances, fuch as Fountains in the middle of their Houses, Pipes to convey fresh Air by Grottos and high Edifices, by which their Streets are shelter'd from the Sun, and a temperate Diet. During the tropical Heats \*, the Air is fometimes so much moisten'd and cool'd by the Notherly Winds, and the watery Surface of the Nile, that the acute and pestilential Distempers are check'd by this Constitution of the Air: the Inhabitants often fuffer from Catarrhous Distempers, more than in Northern Countries, their Bodies being more delicate, and their Pores more open by the preceding Heat.

As to their Seasons, their Spring lasts from the Beginning of January to March; their Summer is double, the first, from the Beginning of March to the Solftice +, and the fecond, from the Solftice to the Beginning of September; and this second Summer is more constant, healthy, and less scorching than the first, by reason of the difference of the Winds, and other Causes hereafter mention'd. Their Autumn lasts September and October; and

their Winter, November and December.

The extreme Heat of the first Summer proceeds from the hot Winds which blow

Tropical Heat, fee p. 116. Note \*.

<sup>+</sup> Solftice is likewife explain'd in the same Note.

Ch. IV. thro' the various Stages of Life. 127 from the South and South-East, called by the Inhabitants Campfin, from their Continuance of fifty Days; tho' they have no determin'd Time, but last sometimes more than three Months, and reign March, April, and May; they blow over the Sands, which they raise in Clouds, sometimes so as to darken the Sun: during this Time, many epidemical Diseases rage, especially Inflammations of the Eyes, a Fever, which the Inhabitants call Demelmuia, attended with a Delirium. and proves often mortal in a few Hours, and even the Plague itself. And this extreme Heat has fudden Interruptions of Cold, which renders the Inhabitants still more unhealthy, and they live under Ground during the Campfin. na odser of toeledit voud togist

The Heat during the Months of June and July, which by the Course of the Sun should be the greatest, is so moderated by the Northerly and moift Winds blowing over the Mediterranean, and by the overflowing of the Nile, that the Inhabitants grow healthy, and fow their Seed in the Months of September and October. Their Winter has feldom any Snow, Frost, or Rain, or any thing besides Dew, unless in some Places bordering upon the Mediterranean, and receiving Clouds from thence. So that the reigning Winds in Egypt are the Southerly, blowing as it were from an Oven; and the Northerly, moist and cold over the Mediterranean, and this last perhaps two Thirds of

the Year, and during the greatest Solar Heats.

Another Cause by which both the Heat and Drought of the Air is temper'd, is the overflowing of the Nile, which rifing in the Mountains of Ethiopia, bends its Course Northerly thro' a Tract of Land near 30 Degrees. By the Rains falling in those Mountains, the Nile has ever fince the Memory of Man begun to swell the 17th of June New Stile; and it rifes every Day about 8 or 10 Inches, and begins to fall in August, and decreases till May, when it is in a manner stagnating. The Limits of its Height are, from 26 the highest of all, to 18 the lowest, in Cubits; the middle 24; 18 is a Height barely sufficient to make an Inundation. Its Water not only refreshes the Air with a kindly Moisture, but is the most delicious Drink in the World, when purify'd by the Deposition of its Sediment, being of itself a Cure for most Distempers, where Dilution, a Diuresis or Sweating is necessary, as Prosper Alpinus found by Experience.

There are several remarkable Things in the Constitution of the Egyptian Air; for the Perspiration of the Soil, which is sandy and barren, cannot affect the Air very much, the Exhalations being mostly either from the Surface of the Inundation, or the Mud and Slime after it is over. The natural Heat and Dryness of the Air, and the Change from that to cooler Moisture; the Abate-

ment

Ch. IV. thro' the various Stages of Life. 129 ment of the Tropical Heats by Northerly Winds; the Extremity of Heat and Drought; by the Southerly Winds blowing over Sands, and the Moisture again induc'd by the Clouds from the Mediterranean, and the Inundation; the Exhalations from stagnating and putrid Water, when the Inundation is quite over; and lastly, the Temperance and regular Diet of most of the Inhabitants, must give a fair Experiment of the Effects of Air upon human Constitutions. And accordingly, those who labour and live hard, and cannot defend themselves from the Injuries of the Wind, mostly hot and dry, are extreamly lean and fqualid. The Rich, by a plentiful and nourishing Diet, and preferving themselves from the Heat and Drought, by Bathing, Relaxation of their Fibres by drinking the Water of the Nile, are often fat.

Qualities from the Perspiration of the Ground, were it not from the accidental ones above-mention'd, would be extremely wholsome; and the People who know how to defend themselves from those Accidents, live to great Ages. The frequent Changes of Heat and Cold, Moisture and Drought, produce all the Distempers of the Catarrhous Kind, and Arthritick Diseases; and by the strong Perspiration, Leprosies, even Elephantiass. The Effects of a hot dry Air by a Southerly Wind, blowing over a sandy Country, are selt strongly; inflammatory Distempers, especially

Demelmuia, mortal in a few Hours: they feel likewise all the good Effects of the A-batement of this Heat and Drought by Northerly Winds, and the overflowing of the Nile. They are likewise subject to all the Diseases from putrid and stagnating Water, and Exhalations from Heat after the Inundation is over, and these are often pestilential.

Pestilential Distempers are frequent in Egypt, and what I think demonstrates the Plague to be Endemial \* to that Country, is its regular Invasion and going off at certain Seasons, beginning about September, the time of the Subfidence of the Nile, and ending in June the time of the Inundations. In the first Case, are all the Causes productive of Putrefaction, Heat, and putrid Exhalations, and no Winter Frost to check them. But what is wonderful, the Plague, and the Fevers from the Heat of the Campfin, go off by the Northerly Winds, and the overflowing of the Nile: and the wholsome Quality of Northerly Winds for checking pestilential Distempers, has been observ'd by all ancient Physicians. And to shew that the Plague depends upon the Temperature of the Air, Prosper Alpinus takes Notice, that upon the swelling of the Nile, the Infection, and

<sup>\*</sup> Endemial or Endemick, is a Disease that infects a great many in the same Country, proceeding from some Cause peculiar to the Country, or the Place where it reigns, such as the Scurvy to the Northern Climes, the Plague to Turkey and Egypt.

Ch. IV. thro' the various Stages of Life. 131 and even the Danger from infected Cloaths and Furniture goes off; besides the cooling of the Air, the Northerly Winds may dissipate the stagnating Vapours, and the running of the Nile the stagnating Waters. Hippocrates and Galen have both observed, that the Etesia, or Northerly Winds blowing in Summer, made a wholsome Season; but this Observation is more sensible in hot Countries than in ours.

Boutius, a very learned and fagacious Phyfician, has left us a Description of the Air and Diseases of the Inhabitants of Java: it is fituated under the Line, and is very hot; it is likewise moist, from the great Quantities of Rain and stagnant Waters; and from Heat and Moisture, and Salts produc'd from those Qualities, the putrifying Quality of the Air is very manifest in rotting of Cloaths, and rusting of Metals. From these Qualities the Air feels to human Bodies piercing and active; and as all the Inhabitants of hot Countries have that Sensation of the penetrating Qualities of Air, Cold after great Heats, which proceeds chiefly from the Pores of their Skin being relaxed before by Heat, fuch Bodies must imbibe Air faster.

In Java, as in Egypt, the Northerly Winds render the Air wholfome, by abating the extreme Heat; some Land Winds carrying along with them the stagnant Vapours, are often otherwise. The Soil being here fruitful and sich, emits Steams, consisting of I 2 volatile

volatile and active Parts, which fructify the Soil, but are hurtful to human Bodies.

The Seasons here cannot be distinguish'd by their Heat, by reason of the Smallness of their Latitude: there are only two, what may be called Winter is the rainy Season; this Season is attended with Diseases which depend upon Putrefaction. The Inhabitants measure their Seasons of Heat and Cold by the times of the Day; the Mornings and Evenings are cooler by the Absence of the Sun, and by the Sea Breezes; the scorching Heat of the middle of the Day makes that Time

unfit for Bufiness.

The popular Diseases here are, a kind of Palfy, called by the Inhabitants Beriberium, the Cause of which is evidently cold Air, imbib'd by the Pores of the Skin, extreamly relaxed by Heat before, and therefore invades fuch as incautiously expose themselves to the Morning Air, or throw their Bedclothes off in the Night. Another Disease, called \* Catalepsis, is likewise popular in this Country, proceeding from the penetrating Qualities of the Air imbib'd by relax'd Bodies, which renders the Patient rigid like a Statue, and dies in a few Hours. Diarrhaas and Dysenteries are common from the same Caufe, by sudden Suppression of Perspiration. It is a Matter of Observation, that great Heats exalt the Bile, by exhaling the watery Particles which dilute it, by a strong sensible Per-

<sup>\*</sup> Catalepsis, is a convulsive Disease like an Apoplexy.

Ch.IV. thro' the various Stages of Life. 133
Perspiration; and therefore the Cholera Morbus +, and other Diseases of the Liver, are common and fatal in the East-Indies; and from diseased Livers, Droppies and Atrophies are frequent in Java: and in this Country Fevers are seldom intermitting, but continual, with Phrensies, and other dreadful Symptoms, as during the Campson in Egypt,

proving mortal in a short time.

It feems agreeable to Reason and Experience, that the Air operates fenfibly in forming the Constitutions of Mankind, the Specialities of Features, Complexion, Temper, and consequently the Manners of Mankind, which are found to vary much in different Countries and Climates. As to Features, what an infinite Variety arises from the Combination of the Parts of a human Face! fo that fince the Creation of the World, perhaps there were never two, upon a narrow Inspection, that perfectly resembled one another; for there are Faces not only individual, but Gentilitious and National; European, Afiatick, Chinese, African, Grecian Faces, are characteris'd: and this Diversity of National Features and Shapes is not altogether the Effect of Propagation from the same original Stock; for it is known by Experience, that Transplantation changes the Stature and outward Shape both of Plants and Animals.

I 3 Hippo-

<sup>†</sup> Cholera Morbus, is a convulsive Motion of the Stomach and Guts, whereby the bilious Excrements are discharg'd in great Plenty, both upwards and downwards.

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Hippocrates makes great Account of the Influence of the Air upon the Fætus, both before and after Birth. He is of Opinion, that the great variety of European Faces, is owing to that of the Air and Seafons, as has been observed in another Place, there being such great Excursions in the Extremities of Heat and Cold, that their Offspring is as it were begot and brought forth in different Climates.

That the Shape of Animals should be modify'd by the Air, is in no Ways unaccountable; for an Animal growing, expands its Fibres in the Air as a Fluid, which by a gentle Preffure refifts the Motion of the Heart in the Expansion and Elongation \* of the Fibres: and tho' the Fibres of feveral Animals shoot as it were in this Fluid, according to their original Shapes, yet fuch a Fluid refifting by its Pressure, is, in respect to the Animal, like a foft Mold, in which the Body is form'd; and therefore, according to the Quantity of its Pressure, depending upon its most permanent State of denfe, rare, hot, cold, dry, moift, must have some Influence in forming the outward Figure of fuch a Body in a State of Acretion or Growing: besides this outward Pressure, the Air being mix'd with the Animal Fluids, determines their Condition as to Rarity, Denfity, Viscosity, Tenuity, and several other Qualities.

Ch. IV. thro' the various Stages of Life. 135

That the Complexion depends much upon the Air, is plain from Experience; the Complexion of the Inhabitants of several Countries being fair, swarthy, black or adust, according to the Degrees of Heat, Drought, Moisture, or Coolness of the Air they live in; for the Inhabitants of Countries in great Latitudes are generally fairer than those that live nearer the Sun.

That the Temper and Passions are influenc'd by the Air, is no less certain: People of delicate Nerves and moveable Spirits, are often joyful, sullen, sprightly, dejected, hopeful, despairing, according to the Weather; and these Changes happen in stronger Con-

stitutions, but pass unobserv'd.

There are Days in which the intellectual Faculties of Memory, Imagination, Judgment, are more vigorous; therefore it feems probable, that the Genius of Nations depends upon that of their Air; for Arts and Sciences have hardly ever appear'd in very great or very small Latitudes. The Inhabitants of some Countries succeed best in those Arts which require Industry and great Application of Mind; others in fuch as require Imagination: from hence some Countries produce better Mathematicians, Philosophers, and Mechanics; others better Poets, which befides the Rules of Art, require Imagination; and it seems, that Labour is more tolerable to the Inhabitants of colder Climates, and Liveliness of Imagination to those of hot.

There are two Things common to all Mankind, Air and Aliment, and both differ very much in their Qualities, in different Countries and Climates; but those of the Air perhaps are more different than those of the Aliment or Food. In perufing the Accounts of the Temper and Genius of the Inhabitants of different Countries, we difcover in them a great Uniformity, even tho' the Race has been chang'd; for the Temper of the Gauls, describ'd by Casar and other Writers, is much the same with that of the present French, of which there is a remarkable Instance in the Misopogon of the Emperor Julian; he tells us, that he had passed a Winter at Paris, where there were more Comedians, Dancers, and Fiddlers, than there were Citizens besides. And I believe if a Race of Laplanders were transported thither, in a few Years they would be found in the Condition describ'd by the Emperor Julian.

If we consider the Causes assign'd by Hippocrates, of the different Temper of the
Inhabitants of different Climates, we shall
find them sufficiently proportion'd to their
Effects. In Northern Countries, where the
Alterations of the Height of the Mercury in
the Baremeter, and consequently of the
Weight of the Air, are frequent and great,
the Fibres of human Bodies are in a continual
oscillatory \* Motion from a Pressure of 1200,

<sup>\*</sup> Oscillatory Motion is properly the Swing or Motion of a Pendulum of a Clock, and thence comes to be used for all tremulous or undulating Motions having Resemblance thereto.

Ch.IV. thro' the various Stages of Life. 137 1800, nay, 3600 more at one time than

another; and the this, by the Softness and Rarity of the Fluid, is insensible, and not painful, it is a fort of Exercise, which the Inhabitants of Countries where the Variation of the Height of the Mercury is small or no-

thing, do not feel.

By the Difference of the Tension of the Fibres, the whole nervous System and the animal Spirits are in some manner affected: And let us consider again the Extremes of Heat and Cold in great Latitudes, operating after the same manner, relaxing and constringing the Fibres by turns, and the extreme Cold acting likewise as a Stimulus, in consequence of which we find an Activity and Tolerance of Motion and Labour in dry frosty Weather, more than in hot; whereas the People within the Tropicks are constantly in the State of our hottest Weather.

Therefore, whoever considers Mankind in such different Circumstances, will find, that the Temper both of their Body and Mind must be different, and that a greater Variety in the Oscillatory Motion of the Fibres of Northern People, must produce the same in their Spirits; and therefore a proportional Inequality in their Passions, and consequently greater Activity and Courage.

That the Inhabitants of Climates, where the Difference of the Weight, Heat and Cold of the Air is but small, feel only the Changes Changes of the Tension of their Fibres proceeding from Drought and Moisture, being free from the Agitations and uneasy Sensations of northern People, proceeding from the Causes above-mention'd; and the Motions of their Fibres and Spirits being more uniform, they may be for that Reason, and from excessive Heats, lazy and indolent.

That the Constitutions of Mankind differ according to the Qualities of the Air in which they live, is an uncontested Matter of Fact, and depends upon obvious - Causes: For as Hippocrates observed, that the Inhabitants of moift Countries were bloated, leucophlegmatic, and dull, from the Relaxation of their Fibres, and the Moisture imbib'd with the Air; and contrary Causes must produce contrary Effects: Heat indeed relaxes the Fibres, but by absorbing the Moisture may likewise harden, and render them more folid: For the Bones of Animals in hot Countries are more folid, and specifically heavier than those in cold Climates, as may be feen in comparing the Bones of the Limbs of African Horses with those of northern Countries.

The Blood likewise in hot Countries is thicker and blacker, by the Dissipation of the serous Part by sensible Perspiration, which is Matter of Fact well attested by Physicians who have practised in those hot Countries: And from this black adust State of their Blood, they are Atrabilarious; for

Ch. IV. thro' the various Stages of Life. 139 great Heats exalt the Bile, by dissipating the Moisture which dilutes it; but Bile, of itself, is the most unperspirable of Animal Fluids, for it stops at the Surface of the Skin, and discolours it.

There is some Anology\* between Plants and Animals, and both are longer in coming to Maturity in cold and moist Air; for the prolifick Age of Mankind is much earlier in hot than cold Countries, the Females being in that State at ten Years of Age. And the Inhabitants of warm Countries are not subject to be fat, for a strong Perspiration keeps an Animal from being so; yet a copious Diet and Inactivity will always occafion Exceptions from the general Rule.

Cold and moist Air must necessarily produce phlegmatic and lax Constitutions, and by stopping Perspiration, with a copious Diet, accumulate the Animal Oil: But dry and cold Air in a Degree tolerable to human Bodies, which is a state of our Winter Frosts, creates a strict or tight Constitution of the Fibres, and all the Effects thereon depending, as Vigour and Activity, &c.

As the Force of human Bodies is limited, they are not capable of bearing Extremities of any kind, of too great Rarety, Density, Heat, Cold, Moisture, or Drought in the Air. From the same cause human Bodies do

<sup>\*</sup> Analogy is the Relation which one Thing bears to another.

140 A GUIDE to HEALTH Part H. do not easily sustain violent and sudden Changes, which agitate the Fluids and Solids too much; for as the State of our Fluids and Solids change with the Air, violent Alterations in the latter produce the fame in the former. For Example: Suppose such a State of the Air as makes a great Stricture of all the external parts of the Body, and confequently an Abatement of the Circulation in the Vessels exposed to the Air, and in those which immediately communicate with them: Suppose again, the Air is fuddenly changed from this State to one which violently relaxes the Fibres; by their Relaxation it is possible that the Vessels which were destin'd before to carry the Serum or Lymph, may admit the Blood, which is an inflammatory State: Accordingly we find, that inflammatory. Distempers of several kinds are rife in mast and warm Weather, preceded by hard and lasting Frosts: Frosts stop the Perspiration of the Earth, which being restored by Thaw, fills the Air with an unufual Quantity of Vapours, which affect human Bodies, not only by Relaxation, but as they imbibe them with the Air.

Cold both congeals the Fluids and constringes the Solids; for it acts like a small Ligature upon the Vessels affected with it, by which the Circulation through the Vessels is retarded; the natural Effect of which is a greater Secretion of Serosity through the Glands

Ch.IV. thro' the various Stages of Life. 141 Glands contiguous; for the Extremities of the Vessels near the Glands being press'd, they cannot fo plentifully carry off the refluent Fluid, by which there must be a greater Flux of Liquor towards the Glands, and confequently a greater from its Emunctories; therefore Catarrhs, or Jerous Defluxions upon all the Parts of the Body, but especially from the Glands of the Head and Throat. are a natural Effect of Cold

Obstructions by Cold in the outward Parts of the Body, drive the Blood preffing with greater Force upon the inward Parts, and increase Heat, and likewise may occasion a Siziness in the Blood: And Cold, by suppressing the Perspiration of Salts in the Blood, by congealing the Blood, and likewife by a painful Stimulus corroding the Skin, is apt to produce Scurvies, and other cutaneous Eruptions, and in extremity is capable of freezing the Fluids, and reducing Animal Substances

to a gangrenous State.

Cold Air is also capable of rendering inflammatory Distempers with cutaneous Eruptions more dangerous, by hindering the Relaxation of the Skin; as the Small-pox is found to be most fatal during hard Frosts, and cold north-easterly Winds. Cold Air likewise, by its immediate Contact with the Surface of the Lungs, is capable of abating or stopping the Circulation of the Blood, and bringing them into an inflammatory State, and by producing Catarrhs and Coughs,

is productive of all the Effects of such Defluxions upon the Lungs, as Ulcerations, and

all Sorts of Pulmonick Consumptions.

Hot and moist Air producing Relaxations, and consequently an Abatement of the Force of the Solids in propelling the Fluids, must produce Stagnation, Tumours, and Putrefaction in the Liquids, and all the other Diseases depending upon a lax State of the Fibres: Hippocrates observed such Diseases always consequent upon a moist Constitution of Air with southerly Winds, which are warm; and the same has been often observed here in

England.

As Perspiration is the last Action of perfect Animal Digestion, that Constitution of Air which suppresses Perspiration, must hinder Digestion; therefore cold and moist Air must be hurtful to the Stomach: And as Catarrhs and Coughs are the Effects of cold and moist Air, and those habitually affecting the Lungs, they often produce pulmonick Consumptions; yet it seems probable, that where those Consumptions are a popular Disease, they proceed from some particular Acrimony in the Air of that Country, affecting that tender Organ by immediate Contact, and perhaps most of the Glands of the Body; for our Consumptions are for the most part scrophulous, and scrophulous Distempers are common in this Country. And where the Air is charg'd with any faline acrid Particles, they will naturally coagulate

Ch.IV. thro' the various Stages of Life. 143 agulate the Fluid where they touch; and from the abundance of Mineral Waters of all Sorts in England, it may be inferr'd, that there are abundance of Mineral Steams, which are capable of producing such Distempers.

From what has been said on the Subject of the Insluence of Air upon human Bodies, it is plain that no vitious State, either of the Solids or Fluids, but is producible by the common Properties and Qualities of Air, and their Changes and Combinations. By the Qualities of the Air, the solid Parts may be stimulated: For example, the Stimulus of extreme cold Air is very sensible.

Heat, or any Quality of Air, so excessive as to produce a painful Sensation, acts as a Stimulus: And what obstructs the Passages of the Vessels which communicate with the Air, is stimulating, by increasing the Force of the Heart and Fibres to overcome the Obstruction; this either Cold or Moisture may do, which often produce, first a Chilness, and then a succeeding Heat, which are severish Symptoms. Many volatile Particles stoating in the Air, as the Odoriferous Vegetables, act as a Stimulus, and produce Heach-Achs, as we often find.

That the Fibres are constring'd and relax'd by the Alterations of the Properties and Qualities of the Air, has been already demonstrated; and that the Fluids may be vitiated in the same manner, is no less plain: That the Blood may be condensed 144 A GUIDE to HEALTH Part II.

That a certain Degree of Heat will attenuate, and a greater coagulate the Serum; and that Heat in general is capable of producing great Acrimony and putrid Fevers of all Sorts, is true from Experience: And any Degree of Heat greater than that of a human Body will do so; for our natural Heat is near the Degree of Coagulation. Cold likewises condenses the Fluids in immediate Contact with it; and is capable of producing Siziness and Viscosity of the Blood: And by the same Causes Acrimony of all Sorts, to the Degree of Putrefaction, is producible by Air.

Evacuations of all Sorts, from all the glandulous Parts of the Body, are producible by the Stoppage of Perspiration by Cold; for there is no diuretick Medicine that works so strong in a Flux of Urine, as a Suppression of the perspirable Matter in bysterical Cases. Cold likewise promotes all Catarrhs and Coughs; and moist Air, Diarrhæas, and copious Secretions from the Glands of the Guts, without which Evacuations, Stoppage of Perspiration produces a Plethora or Academy and the Humours in the Vessels.

From these Considerations it appears, that the Diseases, especially the Acute of any Season, chiefly depend upon the Constitution of the Air, by which they are modified as to their Rifeness, Duration, Degrees of Danger, their particular Symptoms, Circulations and Periods: In which we must not only

Ch. IV. thro the various Stages of Life. 145 only confider the present, but likewise the preceding State of the Air; because, as they are more similar, or contrary, so the Alterations produced in human Bodies are more or less violent; particularly it will be found, that sudden Changes from the Extremes of Cold and Dry, to Heat and Moisture, are Causes which operate strongly in modifying the Diseases of that Seasons

Weakness, are apt to stamp the succeeding Fevers with nervous Symptoms: That such a dry Constitution of Air, as is apt to contract the Skin, and obstruct its Pores, makes the Criss by sweating more difficult; and perhaps the different Periods of Fevers, 240-tidian, Tertian and 24artan, may depend upon a preceding greater Viscosity, or Obstruction in the Vessels, produced by the Constitution of the Air: That the more dangerous State of the Small-pox, and other inflammatory cutaneous Eruptions, depends upon the Air; and it seems very plain, as it induces a greater Laxity or Stricture of the Fibres, or creates Obstruction in the Vessels of the Skin.

That Diseases of the Lungs, as far as they are not the product of bad Diet, depend chiefly upon the Qualities of the Air, seems evident; for the Lungs are exposed to the outward Air, which has an immediate Admission into the Air-bladders, and perhaps into the Blood-vessels; and whatever Effect

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the Air has upon the Skin, this must be expected upon the Lungs in a particular Manner. Thus far I thought necessary to give the Reader an Abstract of the ingenious Dr. Arburthnet's Explanations of Hippocrates, and others, on the Subject of the Influence

of Air upon human Bodies.

But to conclude, I shall only add; that of all the Causes that are capable of altering our Bodies, no one is so necessary and so sudden as the Air; the Necessary and so sudden as the Air; the Necessary and so suddent from the use of Air in Respiration; for if it happens, that any of the chief Organs appropriated either for the Entrance or Reception of Air receive any great Injury, the Animal dies suddenly by Suffocation; whereby it manifestly appears, that Air and Life in perfect living Creatures, are inseparable.

According to Hippocrates, natural Heat is preserv'd by moderate cool Air; for if you take away the Air from Fire, it will not burn, but will immediately be extinguish'd: and our Spirits, which are the principal Instruments of the Soul, are generated and nourish'd by Air, and supported by its going in and out; and it is principally for this Reason that our Bodies are every where perforated or porous, that our Arteries are continually beating, and that Nature has made such admirable sine Mouths to the two Vessels called the Lungs; so that the Air is as necessary

Ch. IV. thro the various Stages of Life. 147 cessary to a living Creature as the Soul it-

As to the Suddenness of the Air; we feel it every Moment; for it instantly ascends to the Brains by the Nose, and traversing almost an infinite number of minute Passages, which are to be seen in the admirable Net work of animal Bodies, proceeds to the inmost Recesses of the Body, and descends with incredible Velocity into the Lungs by the Mouth, and thence to the Heart: it likewise penetrates the Pores of the Skin insensibly, and enters the Arteries by Transpiration, as far as the deepest Cavities of our Bodies; it surrounds us always, and never abandons us one Minute; so that we must constantly imbibe or suck it in whether we will or not:

The Divine Hippocrates, being thoroughly acquainted with the Power of Air upon human Bodies, tells us in his Epidemicks, and in the second Book of Diet; that the whole Constitution of the Spirits, Humours, and the Body, depends entirely upon the Air. Therefore the Choice of good Air, and a pleasant Habitation, must always claim the first Rank in the Regimen of Health; so that such as would preserve their Health, and obtain a long Life, ought to know the Goodness of the Air, as well in regard to its Sub-

stance as to its Qualities.

As to its Substance, when it is pure and has no Seeds of Corruption, and that it is

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not impregnated with malignant Vapours proceeding from dead Bodies, or from the Sinks or common Shores of great Cities, or standing Waters; or from the sulphureous Exhalations of Mines, combin'd with different Salts, or metalline Particles, which are stinking, oily, and imflammable, of which I treated at large already in Part II. Chap. I.

But if the Air happens to be corrupted or infected, and that we cannot remove as soon as we would, it must be purified with artisicial Fires made of Rosemary, Juniper, Laurel, Cyprus, and Perfumes made of Aloeswood, Juniper-berries, and other Aromatics; likewise the Steams of Vinegar correct the Malignity of the Air in a surprizing manner.

As to the Qualities of the Air, all Excesses of Heat, Cold, Moisture and Dryness, are pernicious; for which Reason we should chuse moderate Air if possible; therefore serene Air moderately hot and dry, blowing from clear inland Places, or from Rivers with a gentle Breeze, free from sudden and great Changes, open and rural, purg'd of salt and oily Exhalations, is generally the best to preserve Health.

As to what regards ancient People, a warm Air is certainly the best for them, and their Chambers should never be without Fire, especially in the cold Seasons of the Year; for it is experimentally true, that their State of Health is much better in Summer than in

Winter;

Ch. IV. thro' the various Stages of Life. 149
Winter; because they always carry the Winter along with them. Their Bed-Chambers should be in the upper Apartments, and their Houses open to the East, that the Morning Sun might enter their Rooms: there should likewise be an opening on the North Side, in order to let in Air from that Side, and by that Means to purify the Air, and expel all noxious or offensive Steams and Vapours out of their Chambers.

## CACINCIA DINEXENDIZADIO

## CHAP. V.

Of ALIMENTS in general.

A LIMENT includes all that is taken in as Meats and Drinks, from whence Nourishment is expected, which is what supplies Nutrition. And what comes under this Term is threefold: First, all that passes in the first Stage from Mastication, or Chewing, to the Chyle's Entry into the Blood is so call'd. And Secondly, the Apposition of new Parts in the Room of those wore off by Action. Thirdly, when the Chyle after various Circulations with the Blood, is deprived of all that can be of farther Use to any Part of the Body, it is carried off both sensibly and insensibly through the Emunctories of the Body.

The first is carried on in the The first Stage following Manner: The Parts of of Digeftion. Food being divided by Chewing, and moisten'd with Spittle, that it may be render'd softer in order to undergo a farther Comminution, is thrust down into the Stomach; wherein, by the Affistance of the continual Motion arising from the musculous Coats of the Stomach, and of Respiration, by which the \* Diaphragma alternately preffes the Stomach downwards, the Parts of the Food foften'd by the Saliva or Spittle, and other ferous Liquors from the Glands, is shook about, ground and divided into yet smaller Parts, until it acquires such a Fineness as is requisite, together with the glandulous Fluids and Liquors drank down, for composing that milky Fluid call'd Chyle ‡. But here we are to observe, that the Parts of the Food are not diffolv'd into effential Parts, or Elements, whether chymical or any other, by the Affistance of any Ferment in the Stomach; that is to fay, by a Separation of some Parts of different Kinds combined together, and an Union of other Parts that were before separated, as it happens in all Fermentation of Wine, wherein tartarous Particles, before united

I Chyle is that milky or Emulsion-like Juice, which the

Food is immediately converted into by Digestion.

Diaphragma, or Midriff, is a transverse Muscle which separates the Thorax or Chest from the Abdomen or Belly; in the Middle it is membranous; the Gullet, the great Artery, and the great hollow Vein all pass through it: It conduces to Respiration with other Muscles, and pressing upon the Guts helps forward the Secretion of the Excrements.

Ch. V. thro'the various Stages of Life. 151 united with others, are separated; and Particles of Philegm and Oil, before in Separation, are brought nearer together, and form a true

Spirit.

But by the Concoction that is perform'd in the Stomach, the Food is divided into integral Parts, not differing from what they were before, only in obtaining a leffer Bulk; altogether in the same Manner as Coral is grinded upon a Marble with Water, and reduced to. an impalpable Powder, whose Parts are only fmall Pieces of Coral, and not any Principles into which Coral is refolv'd. For the Proof of which there is no need of any other Argument, than that in the Stomach and the Intestines of the larger Fish, that devour and digest the lesser, the Chyle is nothing else but a Liquor filled with the Fibres of the devoured Fish, as may be easily discerned with a Microscope; or the small Parts of Fibres no way differing from the larger, only in Magnitude, that is, indigested Pieces of Flesh.

The Chyle being thus elaborated in the Stomach by its alternate Contractions, and the Force of the neighbouring Muscles, is thrown out into the Intestines, at its Entrance into which it is diluted with the Bile and pancreatic Juice: which Liquors undergo no manner of Effervescence with the Chyle, or with one another, but are smoothly and

<sup>\*</sup> Effervescence fignifies an intestine Commotion produced by mixing two Bodies together that lay at rest before; attended sometimes with a hissing Noise, Frothing, and Ebullition: For

quietly mixed therewith, and with each other, as appears by many Experiments; and by their Means the Chyle is render'd more fluid, Hence it follows, that the Parts of the Food, in some measure dissolved by the Motion of the Stomach, but not fufficiently separated from each other, thro' want of a due Quantity of Fluid, every one yet being in some measure in Contact with one another, pass over the Pylorus \* into the Guts; and when these greater or less digested Particles cannot be firain'd in any confiderable Quantity into the Lacteals+, by reason of their Magni-tude, they are yet thrust farther into the intestinal Tube ‡, and therein putrify, as they are out of the Limit of Circulation, which begins at the Lacteals: For all Things, fuch as the Flesh of dead Creatures, Herbs, &c. that are capable of Putrefaction out of the Animal, are capable of Digestion in it.

Hence

For Example, Acids, fuch as Juice of Limons, Spirit of Nitre, &c. and Salt of Wormwood, Tartar, or other Alkaline Substances, being mixed together, will produce an Effervescence or Ebullition.

\* Pylorus, or Fanitor, the right Orifice of the Ventricle or

Stomach, which fends the Food into the Guts.

+ Lasteals are long and pellucid Vessels or Veins, which arise from all Parts of the small Guts, from whence they receive the Chyle, and run to the Glands of the Mesentery. They are call'd Latteals of the first Sort, being so very small; and from thence they convey the Chyle to the common Receptacle, and being larger are call'd Lasteals of the second Sort, and thence it is carried into the Thoracick Duct, and from that into the Blood in the left Subclavian Vein.

I Intestinal Tube, the hollow Pipe of the Guts from one

End to the other, which is divided into fix Parts.

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Hence it is certain, that Digestion is much more effectually and expeditiously perform'd in the Day-time, or when we are awake, than in the Night, or during Sleep; because while we wake we breathe thicker, and the Diaphragma and Muscles of the Belly, and even the whole Body is more exercised, and confequently the Stomach is oftener compress'd. It also follows, that by gentle walking, or while we exercise ourselves in any moderate Motion, Digestion is more effectually and expeditioully performed, than while we fit in Idleness and without Motion; and still much better than when we fit hard at Study, because by this Means the Mind is so diverted, that our Respiration then is rarer, even than in our Sleep, and the Muscles are thereby less contracted: And that we digest better in Winter than in Summer, is a Confirmation hereof; because in the Winter, to drive away the Sense of Cold, we are oftener put upon Exercises and greater Activity of Body than in the Summer Season; as likewise, because the Muscles and solid Parts are more tense, and confequently stronger in their Contractions and Attritions \*

But as for a Ferment in the Stomach, according to the wrong Notions of some, whether it be Spittle or Serum ouzing out from the Glands of the Stomach, it cannot contribute any thing to the Digestion of the Food, any farther than by softening it, whereby it

154 A GUIDE to HEALTH Part II. is capable of being farther divided. Neither do any Liquors flow into the Stomach in order to promote Digestion; but Digestion, that is, the Motion of Chewing, Swallowing, and of the Stomach, are the Canfe why these Liquors are press'd out, and that they drain into the Stomach: For that those Liquors contribute nothing farther to Digestion than by fostening the Food, is manifest from hence, that if Herbs or Meat be mixed with them in any convenient warm Place as warm as the Stomach, but without Motion, they will never be changed into Chyle; fo that it is furprizing that any should ascribe to the Serum of the Blood, as it is excerned by the Glands, a Faculty of changing folid Meats into the Form of Chyle, when it is evident that Serum is not a fit \* Menstruum for the Solution of Bread, Meat, or Herbs. But this whole Affair will be much better understood from confidering Boyle's Machine for Digestion, wherein, without the Help of any Ferment, but by the Affiftance only of Warmth, and the Preifure of rarefy'd Air confined, Bones and Flesh, with the Addition of a small Portion of Water, are turned into a Jelly; where nothing is wanting to its being made real Chyle, but the rough Superficies of a Body to grind and often shake it about.

The

<sup>\*</sup> All Liquers are so call'd which are used as Dissolvents to extract the Virtues of Ingredients by Distillation, Insusion, Decoction, &c.

The Chyle being thus made, The focund Stage washes over the Pylorus into the of Digestion. intestinal Tube, where, by its peristaltic Motion\*, and by the Pressure of the Diaphragma, and the Muscles of the Abdomen+, the thinner Parts are ftrained through the narrow Orifices of the Lacteal Veins, while the groffer Parts continue their Progress downwards until they are quite ejected by Stool. What paffes through the Latteals is carried by them into the Glands of the Mesenteryt, where they receive a fine thin Lymph from the || Lymphaticks, whereby the Obyle is diluted fo as to pass easier the rest of its Course: For beyond the first Glands they unite in larger Canals, and those in still larger, until at last it enters the common Receptacle of the Chyle, which is a kind of Bason form'd for it by the Union of the Latteal and Lymtick Vessels. From thence it ascends thro' the Thoracick 4 Duct, and is thence discharged into the Blood in the left Subclavian Vein, and therewith descends into the right Ventridle of the Heart, where it is but imperfect-

\* Alternate Motion of Contraction and Dilatation, commonly tending downwards.

† The Relly, which contains the Stomach, Guts, Liver, Spleen and Bladder.

‡ A membranous Part in the lower Belly, to which the

Guts are connected.

Are slender pellucid Tubes arising in all Parts of the Body, which permit a thin transparent Liquor to pass through towards the Heart, which shut like Flood-Gates upon its returning.

+ A Canal through which the Chyle passeth from the Lar-

teals into the Blood.

ly mixed; and in its Passage it receives the Lympha from all the upper Parts of the

Body.

But here I must observe, that the most subtil Parts of the Chyle pass immediately into the Blood by the Absorbent \* Vessels of the Intestines, which discharge their Contents into the Mesaraick Veins, the Largeness and Number of which demonstrate the same, for they are numerous and vastly larger than their correfpondent Arteries; and wherever there are + Emissaries, there are likewise Absorbent Vessels: for Example, by the Absorbent Vesfels of the Skin, Mercury will pass into the Blood. But Mr. Hale's ‡ Experiment proves this beyond despute; and if we consider the Straitness of the Thoracick Duet, and the Slowness of the Passage of the Chyle by the Lacteals thro' it, and at the same time the great Quantity of some Liquors and several other Things, which pass in a very small Time by Urine, and give it a Flavour and Tafte; by an eafy Calculation we may be able to demonstrate, that such a Quantity could not pass. into the Blood by the Thoracick Dust in fo short a Time.

For which Reason, thin and liquid Aliments are most proper, when immediate Refreshment is required, to cheer up the Spirits after great Abstinence and Fatigue; and the

fame

<sup>\*</sup> Which fuck in.

<sup>+</sup> Vessels which throw out a Liquid,

<sup>‡</sup> Hæmast. Pag. 123. Exp. 14.

Ch. V. thro the various Stages of Life. 157 fame Reason may be likewise given, why Chalybeat Waters are a proper Remedy in Hypochondrical Disorders, and in most Ob-

structions in the Mesenterick Glands, Liver, and Spleen; for their subtle Parts are taken immediately into the Meseraick Vessels, and

from thence carried directly into the Liver

and Spleen.

The Chyle first mixes with the Blood in the left Subclavian Vein, as I have already mentioned, and enters with it into the right Ventricle of the Heart, where they are very imperfectly mixed; from thence they are propelled \* into the Lungs, which are the chief and first Instrument of Sanguisication, or making Blood: For the Wind-pipe is divided into a great Number of Branches, call'd Bronchia, and these end in small Air-Bladders dilatable and contractible, which are capable to be inflated by the Admission of Air, and subside at the Expulsion of it. The Pulmonary Artery and Vein pass along the Surfaces of these Air-Bladders in an infinite Number of Ramifications or Branchings, like a Net-work ‡. A great Number of those Air-Bladders form what are call'd Labuli, which hang upon the Bronchia like Bunches of Grapes upon a Stalk; and these Lobuli constitute the Lobes of the Lungs, which always fink in Water before they have been

Driven forwards.

I Malphig. de Pulmon. Epist. 1, 2. Tab. 1. Fig. 1, 2, 3.

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inflated with Air, but after it has once entered them, they will always fwim in it; by which Means we may know whether Children

are born dead or alive.

The crude Mixture of the Blood and Chyle passes from the right Ventricle of the Heart, through all the Ramifications of the Pulmonary Artery; and the more Ramifications there are, the Mixture will still be render'd the more perfect; yet this is not all, for as this Mixture of the Blood and Chyle passes through the arterial Branches, it is press d by two contrary Forces, first, that of the Heart driving it forward against the Tubes; secondly, the Blastick Force of the Air pressing it on the opposite Side of those Air Bladders, along the Surface of which this arterial Tube erceps.

By these two opposite Forces the Parts of the Liquor are more intimately mix'd and compress'd together, and by the Ingress and Egress of the Air the Vessels are alternately compress'd and dilated, by which Means the Liquor is still farther attenuated, dissolvid, mixed, and almost assimilated with the Blood, but not so perfectly as to serve the animal Purposes; for it is very well known by Experiments of Blood letting, that sometimes eight Hours after eating, some of the Chyle remain'd unmixed with the Blood, swimming a-top

like an oily Substance.

The wonderful Mechanism of Nature in converting our Aliment into animal Substances, Ch. V. thro' the various Stages of Life. 159 stances, consists principally in two Things; first, in mixing constantly with it animal. Juices already prepar'd; and secondly, in the Action of the solid Parts, as it were churning them together. This is evident, considering the vast Quantity of Saliva \* mix'd with the Aliment in chewing, the Liquor of the Stomach, the Bile †, and Pancreatick Juice ‡, the Quantity of the Lymph § from the Mesenterick Glands, and from the Lymphatick Vessels of the whole Body; so that the Juices of an animal Body are as it were new distill'd, being excreted out of their respective

\* Saliva or Spittle, is a thin Liquor fecreted immediately from the arterial Blood: it is of a foapy Nature, and confequently is attenuating, refolving, penetrating, and cleaning, being composed of Salt, Oil, Water, and Spirit, all which can be extracted from it. Too great a Discharge of it by smoaking or chewing of Tobacco has often provid fatal too People of thin Habits of Body, by falling into Decays.

+ Bile or Gall is of two Sorts; the Cyflick; or that contain d in the Gall, Bladder, and the Hepatick, which flows immediately from the Liver. The Cyflick Gall is thick, of a yellow Colour, and intensely bitter. The Hepatick Gall is more fluid, and not so bitter; both Sorts are saponaceous, and like Soap, take out Spots from Wool or Silk. Its Use is to sheath or blunt the Acids of the Chyle descending from the Stomach into the Intestines; likewise it is the principal Dissolvent of the Aliment, and when it is peccant or descient, there can be no right Digestion.

Is an Humour like the Saliva or Spittle, secreted from a conglomerate Gland called the Pancreas or Sweet bread, situated at the bottom of the Stomach, and lies across the Belly, reaching from the Liver to the Spleen, separating about a Pound of Liquor in 12 Hours. Its Use is to dilute the Gall, and to temper its Bitterness and Acrimony after it has done its Office, and likewise to dilute the Chyle, with

other Liquors in the Guts.

5 Lymph is the most spirituous and elaborated Part of the Blood, continually slowing from the lymphatick Vessels.

respective Glands and Vessels, and admitted again into the Blood with the fresh Aliment: during which time the solid Parts act upon the Mixture of Aliment and animal Juices, in order to make the Mixture still more intimate and compleat; so that we may compute that our Aliment, before it gets into the Blood, is mix'd probably with four times

the Quantity of animal Juices.

From whence we may conclude, that an Animal whose Juices are unfound, or solid Parts weak, can never be duly nourish'd; for unfound Juices can never duly repair the Fluids and Solids of an animal Body, and without a due Action of the folid Parts, they can never be well mixed; and as the Stomach. the Intestines, the Muscles of the lower Belly, all act upon the Aliment: Besides, as the Chyle is not fuck'd, but fqueez'd into the Mouths of the Lacteals, by the Action of the Fibres of the Guts, it is evident, that the Chyle is peccant in Quantity or Quality. when these Actions and Organs are too weak; and whatever strengthens the Solids, must help Digestion.

Hence it appears, that Diarrheas and strong Purgings must spoil the first Digestion, because of the great Quantities of animal Fluids which are thereby expell'd the Body, such as, the Saliva, Mucus \*, and all the

Liquors

Mucus, is that flimy Liquor or Moisture, which daubs over and guards the Bowels, and all the chief Passages in the Body; and it is separated by the mucilaginous Glands in most Parts of the Body.

Ch. V. thro the various Stages of Life. 161
Liquors that are separated in the Glands of the alimentary Duct +, both Sorts of Gall, the Pancreatic Juice, Lymph, and sometimes Blood. Considering therefore the Quantity of these Secretions, it will plainly appear, that almost the whole Juices may be carried off by purging; and when those Liquors, destin'd by Nature to mix and convert the Aliment into an animal Liquid, are expell'd out of the Body, the Digestion cannot be so well perform'd. Hence follow Consumptions, Dropsies, and often an Obstruction of the Mesenterick Glands, which is a great Impediment to Nutrition; for the Lymph in those Glands is a necessary Constituent of the Aliment before it mixes with the Blood.

The Mixture of the Blood and The last Stage Chyle, after its Circulation thro of Digestions the Lungs by the pulmonary Arteries, being brought back into the left Ventricle of the Heart, is thence, by the Force of the Heart, drove into the Aorta | quite thro the whole

The whole Passage from the Mouth to the Fundament.

Aorta, is the great Artery which proceeds from the left Ventricle of the Heart, and carries the Blood thro the Body, and every Particle of the Body receives some Branch from it, except some of the solid Parts of the Liver, which receive the Blood from the Vena Porta. The Arteries are elastick. Channels or Tubes, endued with a contractile Force, by which they drive the Blood still forward, it being hinder'd to go backward by the Valves of the Heart. They are also conical Vessels, that is, tapering and diminishing by Degrees, with their Bases or upper and broader Part towards the Heart; and as they pass on, their Diameters grow still less and less, and consequently the Celerity of the Motion diminishes by the Increase of the Friction of the Fluid against the Sides of

A GUIDE to HEALTH Part II. Body; and thus the Aliment, circulating thro' the animal Body, is at last seduc'd almost to an imperceptible Tenuity or Thinnels, before it can serve the animal Purposes, in nourishing both the Fluids and Solids; and after various Circulations, and when it is deprived

of all that can be of farther Use to any Part of the Body, it is carried off, both fenfibly and insensibly, by the Emunctories \* of the Body. But for farther Satisfaction concerning Nutrition, Growth, and Decrease of the

Body, turn to Part I. Page 19, to 28. By the foregoing Doctrine it is evident, that Acrimony and Tenacity or Glewiness, are the two Qualities in what we take inwardly most to be avoided; for Acrimony or Sharpness destroys the capillary Vessels, and when it is so great as to affect the folid Parts, the Sensation of Pain is intolerable.

the Tubes; and without this Motion, both the Blood and Chyle would foon be converted into one folid Mass; but on the contrary, by its Continuance, the Fluid being compressed by the Sides of the Tube, especially in the small Vessels, where the Points of Contact are more, the Blood and Chyle are still more intimately mix'd, and by Friction attenuated; by which means the Mixture acquires a greater Degree of Fluidity and Similitude of Parts. Hence appears the Neceffity of Exercise to promote a good Digestion. And the Strength of the Aliment ought to be proportion'd to the Strength of the folid Parts of the Body; for as Animals that use a great deal of Labour and Exercise, have their solid Parts more elastick and strong, they can bear, and ought to have stronger Food, too thin Nourishment being quickly dissipated by the vigorous Action of the folid Parts.

Are those Parts of the Body where any thing excrementitious is seperated, and collected to be in readiness to be ejected. Ch. V. thro the various Stages of Life. 163

As to the Viscidity or Glewiness of what is taken inwardly, when the peristaltick Motion of the Guts is so weak, as not to be able to propel or drive it forward, the Consequence is dangerous, and often fatal to the Life of the Individual; for when the Tenacity of any Substance exceeds the Powers of Digestion, it will neither pass, nor be converted into Aliment; whereas hard Substances will pass undissolv'd. Moreover, the Mouths of the Lateals in People of weak and lax Constitutions may permit Aliment too acrimonious, or not sufficiently attenuated, to enter; but the Sphincters in such as have strong Fibres will shut against them.

Besides, a viscid Mucus may shut up the Mouths of the Lacteals, by which means the Chyle will pass by Stool, and the Person falls into an Atrophy or Decay of Plesh. Wind with Distention of the Bowels are Signs of bad Digestion in the Intestines, and likewise Diarrheeas, which proceed from Acrimony, Laxity of the Bowels, or Obstructions of the

ted on Vegerables: I shall theretonlastal

Those Parts of the Body where the Circulation of the Fluids, and the elastick Force of the Fibres are both smallest, must be most subject to Obstructions; and such are the Glands, which are the Extremities of Arte-

<sup>†</sup> Sphinster, is a Name afteribed to fuch Muscles as draw up, strengthen, and keep that the Paris, such as the Sphincer of the Bladder, Would, Anus, Go.

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ries form'd into cylindrical I Vessels. Hence we may eafily perceive, that too folid or vifcid Aliment must be very hurtful to scrophu-

lous and confumptive Persons.

Having endeavour'd to give the Reader an Idea of animal Digestion, by shewing how our Aliment is converted into animal Substance, in as fuccinct a manner as could be in fo narrow a Compass: I shall now proceed in the fame manner to give an Account of the Choice of them, that what is either beneficial or hurtful may be eafily feen, according to the Nature and Difference of Constitutions.



## CHAP. VI.

Of the Choice of ALIMENTS, no old

S all Animals are made either immediately or mediately of Vegetables &, that is, by feeding on them, or on Animals that are fed on Vegetables: I shall therefore begin with the Vegetable Kind. in hoom I should

solden set had sould a Vegetables

1 Cylindrical, in Anatomy, figuifies Veffels that are fo shaped; as not to be narrower at one End than another, but that all their Parts are equally distant in all Places from their Center; or which is the same thing, that they are of the fame Diameter in all Places, contrary to conical Vessels, which are tapering and growing narrower.

from follows died our s

Vegetables are such natural Bodies as grow and increase from Parts organically form'd, as Trees, Plants, and Roots,

We. but have no proper Life or Sensation.

## Ch. VI. thro the various Stages of Life. 165

Vegetables are proper Food enough to repair Animals, as they confift of the fame Parts with animal Substances, such as Salt, Oil, Spirit, Water, and Earth, all which are contain'd in them, and may be extracted from them. Their Salts are capable of refolving the coagulated Humors of a human Body; and of attenuating, by stimulating the Solids, and dissolving the Fluids: Salts likewife promote Secretion. Oils also relax the Fibres, and are Lenient, Balfamick, and abate Acrimony in the Blood; and by Virtue of this Oil, Vegetables are nutrimental; for this Oil is extracted by animal Digestion, as an Emulsion from Seeds by a Pestle and Mortar. But Aromatick Plants, tho' they abound with Oil, yet it is not foft and nutritious, and when mix'd with a Spirit, is too heating.

Tastes are Indexes or Marks of the different Qualities of all Sorts of Aliment; and different Tastes proceed from different Mixtures of Salt, Oil, Water, and Earth, but principally from the Spirit and Oil, mix'd with some Salt of a particular Nature. A Muriatick or briny Taste, is produc'd by a Mixture of an acid and alkaline Salt; for Spirit of Salt being an Acid, and Salt of Tartar, which is an Alkali when they are L 2 mix'd.

\* The Wotd Alkali comes from an Herb called by the Egyptians Kali. This Herb they burnt to Ashes, and boiled them in Water, and after having evaporated the Water, there remain'd a white Salt, which they called Alkali. It is corrosive, and will produce Putrefaction if apply'd to the Flesh,

mix'd, produce a Salt like Sea-Salt, bitter and acrid, differing only by the sharp Particles of the first being intangled or involved in a greater Quantity of Oil than those of the last.

Acid or four, proceeds from a Salt of the same Nature without a Mixture of Oil; and in austere Tastes, the oily Particles have not disentangl'd themselves from the Salts and earthy Parts, for such is the Tastes of unripe Fruits. In sweet Tastes, the acid Particles are so attenuated and dissolv'd in the Oil, as to produce only a small and grateful Sensation and Titillation; but in oily Tastes, the Salts seem to be entirely disentangled. As Vegetables contain acid or alkaline Salts, so they produce different Effects upon human Bodies, and are to be used according to the different Constitution of the Body at that time, as will appear by what I shall say hereafter.

The properest Food of the vegetable Kingdom that Mankind make Use of, is taken from the mealy Seeds of some culmiferous or Stalk-bearing Plants, as Barley, Wheat, Oats, Rice, Rye, Mays, Panick, and Millet; or from some of the Pulse or Leguminous Kind, such as Pease and Beans, &c. and as those are Seeds containing the most elaborate Part

and ferments with Acids, as all lixiviate Sales will do, which are Anti-acids, that is, contrary to Acidity.

As for acid or four Salts, one has a Notion of from Taffe, Sourness being one of those simple Ideas which one cannot more plainly describe; so that whatever being mix'd with an Acid, causes an Effervescence or Ebullition, is called Alkali.

Ch. VI. thro' the various Stages of Life. 167 of the Plant, they are oily, and confequent-ly proper to be converted readily into an animal Emulsion or Chile: Besides, their Oil is not highly exhalted and hot, as that of the aromatical and acrid Plants, but on the contrary, mild, benign, and nourishing to

Barley is detergent, emollient, and expectorating, and it was first chosen by Hippocrates as proper Food in inflammatory Dif-

eafes.

Wheat is the properest of any Grain for Bread, which, if not entirely purg'd from the Bran, is laxative and stimulating to the Bowels.

Oats are cleaning, resolving and pectoral,

which being outwardly apply'd mix'd with Butter, will dry Scabs on the Head.

Rice, which two thirds of Mankind perhaps feed on, is most kindly nourishing and benign, good in Hæmorrhages, or Fluxes of Blood, and proper for consumptive Persons; but the Bread made of it is more acid and less nourithing then that of Wheat.

Rye is more acid, laxative, and less nou-

rishing than Wheat.

Millet is cleanfing, diuretic, and therefore good in Distempers of the Kidneys.

Panick is opening, and boild with Milk

temperates Acrimony bits : tunfout billes are of mut

Mays affords ftrong Nourishment, but not being so easily brought to a Fermentation as other Grains, is more viscous or glewy, and confe-L 4

A GUIDE to HEALTH Part II. 168 consequently harder to digest. All the fore-mention'd Plants are highly Acescent +, except Pease and Beans.

Peafe are mild, and demulcent in a great Degree, being depriv'd of all aromatick Parts. Green Pease are very pleasant to the Taste, and provoke Appetite; but they are injurious to many, being full of aërial Particles, creating Flatulency when diffolv'd by Digestion.

They are alkalescent 5.

Beans cleanse and fatten, and resemble Pease in most of their Qualities, but are more windy, and occasion sometimes Colic Pains, and diffurb the Head. The French or Kidney-Beans are best, being less windy. People that live a sedentary Life should not seed much upon Pease or Beans, by reason of their Viscosity creating too much Flatulency.

The mealy Parts of the above-mention d Plants diffolv'd in Water for constant Food, is too viscid an Aliment, and for that Reason justly condemn'd by Hippocrates; and upon that Account, Mankind have found the means to make them more easy of Digestion, by fermenting and making fome of them into Bread, which is the lightest and properest

Miller is cleanfing, distribute, and the eigre

These two Qualities in Bodies are not merely imaginary, but have very different and contrary Effects upon human

Bodies.

<sup>+</sup> See Note following. and to an amount of mi boog.

Substances which are not perfectly Acid, but naturally turn fo , are called Acescent ; and Substances that are not perfeetly Alkaline, but naturally turn fo, are called Alkalescent. See the Explanation of Alkali in Note \*, p. 165.

Gh. VI. thro' the various Stages of Life. 169 for human Food; for the Leaven, by its acid Salt, divides the Ilimy and oily Parts of the Meal.

The next Sort of vegetable Substances that Mankind feed upon, are Fruits of Trees and Shrubs: They all contain an effential Salt; combin'd with Earth, Water, and Oil, much elaborated; and their different Qualities are known by their sharp, sweet, sour, or styptic Taste.

Apples are pectoral, cooling, laxative, and open the Breast; they differ considerably in Kind, and their Qualities are easily known by their Taste.

Pears have most of the same Qualities, but they are more cordial, by their high Flavour, than Apples.

Peaches are likewise cordial and pectoral; the best are those that are odoriferous, well

colour'd, and full ripe.

Apricocks quench Thirst, excite Appetite, provoke Urine, their Kernels are good against Worms, and excellent for the Heart-burning: unless they are mellow and full ripe, they are rather somewhat styptick.

Plumbs purge Choler, extinguish Heat, take away Thirst in Fevers; but they are bad for weak and cold Stomachs, and for phlegmatic Persons, and such as are subject to Colics. Those of the austere Kind are astringent.

Mulberries are pectoral, and correct a bi-

lious Alkali.

But unripe, they are both four and aftringent.

Currents are good in spitting of Blood, extreamly cooling, and somewhat aftringent. The Jelly or Rob of Currents mix'd with Water, is an excellent Drink in bilious Fevers.

Cherries are cooling and laxarive, and their Kernels are good for the Gravel in the Kid-neys.

Strawberries, by their fragrant Smell are Cordial. Their Junce mix'd with that of Linkons in Spring-Water is an admirable Drink in bilious Fevers.

Oranges that are fweet are more relaxing than the Seville Oranges; but these last are an excellent Remedy for the hot Scurvy. The sweet Oranges increase Choler.

Citrons or Limons excite Appetite, stop Vomiting, cut gross Humours, are good in Fevers, and their fuices are more cooling and aftringent than those of Oranges.

Grapes taken in moderate Quantities when ripe, help the Appetite and Digestion; but in great Quantities, they dissolve the Gall too much, and produce Pluxes; and dry'd they are pectoral.

Figs are great Correctors of Acrimony, they are good in Coughs and Hoarseness; they are likewise extremely emollient, relaxing the urinary Passages, diuretick, and good in bloody Urine.

Geoloberries

Ch.VI. thro' the various Stages of Life. 171,

Quinces are often useful to weak Stomachs, and good in stopping Fluxes of Blood.

Pomegranates likewise, containing an aftrin-

gent Juice, are extremely cooling and of thous

Barberries and Medlars are uleful in Bloody-Fluxes out of the by fuel saxual and the book of the the book of the bloody of

Tamarinds are cooling and aftringent, yet

laxative to the lower Belly-oil and

Capers are astringent and diuretick; they excite the Appetite, and are good for phlegmatic and melancholy People.

Olives are Anti-acids, or contrary to Acidity by their Oil; but all oily Substances be-

get an Acrimony of another Sort.

Almonds are pectoral, especially the Oil.

Walnuts are cordial and Anti-hysteric, and promote Perspiration in a small Degree.

Hazle-Nuts are in fome Degree good against spitting of Blood; but they are very hard to be digested, they cause Wind, Coughs, and Pains in the Head.

Chesnuts are good against some Female, Weaknesses, and afford very good Nourish-

Regid Smell it effect the Urine: it is fruit tham There are other Fruits of the low pomiferous Kind, which contain a great deal of cooling and viscid Juice, combin'd with a nitrous Salt, which renders them often offenfive to the Stomach; and fuch are Pompions, Cucumbers, Gourds, and Melons; tho the last, when good, have a rich Juice, and somewhat aromatick; they are diuretick, and there are Instances when eaten in great Quan172 A GUIDE to HEALTH Part II.

tities to have thrown People into bloody Urine: they are likewise cooling and refreshing, good for hot Stomache, and the Kidneys; they ought to be taken failing. The Juice of Cucumbers is too cold for weak Stornachs, and ought not to be taken by fuch as have thin and poor Blood, bus go toos sie their ages!

Among the alimentary Leaves, the Pot-Herbs afford an excellent Nourishment: Of those are all the Cole or Cabbage Kind, which are emollient, laxative, and resolvent, and for that Reason proper against Acidity. There are likewise amongst the Pot-Herbs some \* Lactescent Plants, as Lettuce, Endive, Cichory, and Dandelion, which contain a milky Juice extremely wholfome, resolvent of the Bile, anodyne, cooling and directick, and very useful in the Diftempers of the Liver.

Artichokes are pleasant to the Tafte, provoke Urine, and contain a rich, nutritious and stimulating Juice; they are good against Aci-

dity.

Afparagus is opening and diuretic; by the fætid Smell it gives the Urine, it is suspected to be hurtful to the Kidneys; it is likewife good against Acidity.

Parfley provokes Urine, the Courfes, cleanles the Kidneys, and removes Obstruction and Wind; but it is bad in Bloodyand Melens;

Fluxes.

Celery contains a pungent Salt and Oil; it is diuretick and aperient, and exceeding good for cold Constitutions. Spinage

<sup>·</sup> Vegetables containing a milky Juice.

Ch. VI. thro' the various Stages of Life. 173 Spinage is emollient or opening, good in Inflammations.

Beet is emollient, nutritive, and relaxing,

good in hot and bilious Constitutions.

Sallads of all Sorts, mix'd with sweet Oil and Vinegar, are good for hot and frong Constitutions; because they are cooling, diuretick, and emollient; but they are not proper for phlegmatick or weak Constitutions, or those that are subject to Colics or Indigeflion.

Of the alimentary Roots, some are pulpy, and very nutritious; as Potatoes, Turnips,

and Carrots, &cc.

Potatoes, of all Roots in general, are the best and most nourishing for healthy People, and there are Instances enough to prove the fame both in Ireland, and in other Provinces, where two Thirds of the Husbandmen, and meaner Sort of People, constantly feed upon them, and are the principal Part of their Food; yet they are healthy, active, and vigorous, and for the most Part live long.

Turnips are very nutritious, good in Confumptions, Afthmas, and all Diseases of the Breast; they are emollient and diuretick.

Carrots are fattening, they provoke Urine, and the Menses, and likewise help to open Obstructions; but they are windy, and therefore not proper for colicky or weak Stomachs.

Parnisp is a very nourishing and palatable Root; it fattens, and is a Provocative; it opens. : alions

174 A GUADE to HEALTH Part II. opens, attenuates, and cleanfes; but it is

hard to digeft, and not good for afthmatick

and confumptive People.

There are other Roots which abound with an acrid, volatile Salt; as Garlick, Onion, Rockambole, Shalot, Leeks, Radishes, and Horse-radishes: They contain a pungent, volatile Salt and Oil; they are extremely diuretick, and when Rimulating Diureticks can be fafely used, they are very effectual.

Experience teaches, that Garlick is a very excellent Remedy in Droppies, Jaundices, and in Ashmas proceeding from a cold and

viscid Phlegm.

Cresses and Mustard contain likewise, in their Degrees, a pungent Salt and Oil, as well as the last mention'd Roots; and as all of them subdue Acidity, they are very improper in Cases where the Blood is too much dissolved, as in spitting of Blood, and bloody Urine, or where the Blood or Juices have a Tendency to a State of alkaline Putrefaction; and in general they are fitter for cold Constitutions and old People, than for the young and fanguine. Mustard indeed is a very powerful Remedy in viscid and cold phlegmatick Cases.

The Fungous Kind, as Truffles, Morelles and Mustreoms, contain an Alkaline volatile Salt, and an exalted Oil of a grateful Savour; but are heating, and the best Method of correcting them is by Vinegar: Some of them being poisonous, render the rest justly suspi-

cious;

Ch.VI. thro' the various Stages of Life. 175 cious; the poisonous Sort operate in a suffocating Manner, in which Case the best Remedy is Wine, or Vinegar and Salt, and vo-miting as foon as possible.

There are Vegetables used by Mankind in

Scalonings, which afford an exalted aroma-tick Oil, and of a spicy Nature, as Marjarum, Bahl, Savory, Thyme, Rosemary, Sage and Mint: They are heating, and most of them hard to digest: Other Spices of a more power. ful Nature, as Nutmeg, Mace, Ginnaman, Cloves, Ginger and Pepper, abound with a high exalted Oil and volatile Salt, by which Principles they are heating, and act powerfully upon the Fluids and Solids, by stimulating the Solids and refolving glutinous and fat Sub-stances: They are all proper in phlegmatick cold Constitutions. But Sage being a stimulating, drying, and aftringent Plant, when used in great Quantities will produce Diforders like Drunkenness; therefore the Infusion of Tea made of it is very improper in all inflammatory Fevers as a Diluter.

As the Infusions and Decoctions of Tea, Coffee and Chocolate make so considerable a Part of Aliment at present, especially among the Female Sex, it will not be improper to say something of their Qualities in particular.

Tea, by its Manner of affecting the Organs of Taste and Smell, affords very little of a vo-latile Spirit; its bitter and aftringent Rosin or fix'd Oil cannot be extracted by Water, but

176 A GUIDE to HEALTH Part II. requires rectify'd Spirit of Wine for that Purpole. The most active Principles of it that can be extracted by Infusion are the most separable Parts of its Oil or Gum, and Salt. Its Salt and Gum are aftringent, as appears by mixing it with Chalybeat-Waters, which will produce a Tincture of the fame Colour as that of Oak-leaves; it is \* Acescent, as appears by its affecting Stomachs troubled with Acidity, which Diforder it will rather promote than correct: By its aftringent Quality it moderately helps to correct the relaxing Quality of the warm Water; and by its styptick and stimu-lating Quality, it affects the Nerves, very of-ten producing Tremors. By the frequent drinking too great Quantities of it, as is now become a common Practice, it will relax and weaken the Tone of the Stomach; from whence proceed an Inappetency, Nausea, Reachings or Vomitings, Indigestion and Sickness at the Stomach; and generally speak-ing, a pale and wan Complexion, with a Weakness of the Nerves and Flabbiness of the Flesh, the Solids and Fluids being thereby deprived of their proper Nourishment.

Hence we may easily perceive, how pernicious Tea-drinking may prove to the Sedentary, especially the Female Sex, who for the Generality have weak and tender Nerves; but as Milk abates some of the fore-mentioned bad Qualities, by rendering it softer and autritious, and Sugar as a Salt, encreases it stimulating

See Note 5, Page 168.

Ch. VI. thro' the various Stages of Life. 177 lating Quality, it may be a proper Breakfast enough, as a Diluent, to those who are strong, and live full and free, in order to cleanse the alimentary Passages, and wash off the scorbutick and urinous Salts from the Kidneys and Bladder. But Persons of weak and tender Nerves, as I have just now observed, ought carefully to avoid and abstain from it, as from Drams and cordial Drops; for such fall into Lowness, Trembling and Vapours, upon using it with any Freedom, by its Irritation on the tender and delicate Fibres of the Stomach.

As to Coffee, it is a meer Calx, or a kind of burnt Horse-Bean, but lighter on the Stomach and somewhat of a better Flavour; and what is extracted from it by hot Water, is the most separable Parts of its Oil, which of ten appears at the Top of the Decoction. This Oil is volatile, and affords very little Nourish ment, producing all the bad Effects of a volatile Oil and aromatic Acrimony, fuch as Heat? Drynels, Stimulation, Tremors of the Nerves, for which Reason, it has been deem'd to cause Palsies, Watchfulness, Leanness, and destroy masculine Vigour: Hence it is very plain, that it must be pernicious to hot, dry, and bilious Constitutions, and only beneficial to Phlegmaticks, if moderately us'd; but when drank in too great a Degree of Strength. or

For further Satisfaction herein, see Dr. Thomas Share's learned and elaborate Dissertation upon Tea, in which the Author has not only given us the Natural History of the Plant, but likewise its Analysis, with great Skill and Industry.

Quantity, it will prove destructive even to

phlegmatick Constitutions.

Chocolate is undoubtedly much the best of the three; for its Oil appears to be both rich, nutritious and anodyne\*, and is as soft as that of Sweet-Almonds: This Oil combin'd with its own Salt and Sugar renders it sapenaceous and detergent; by this Quality it often helps Digestion and excites the Appetite; and is only proper for some of the leaner and stronger Sort of phlegmatick Constitutions, and some ancient healthy People, who are accustomed to bodily Exercise.

There are other Preparations of Vegetables by Fermentation, whereby they are changed into spirituous Liquors, which are, or may be called by the general Name of Wines: Such fermented Liquors have different Qualities from the Plants that produce them to for mo Fruit taken crude has the intoxicating Quality of Wine. Of these Liquors I shall take particular Notice, after I have given the Reader a short Account of the Nature of animal Diet, as far as it regards the Nourishment of Human Bodies.

Animal Food is more easily converted into animal Substance than Vegetables; and therefore more nourishing to human Bodies: And the

+ Eafing, or taking away Pain.

<sup>†</sup> Sope is a Mixture of Oil and fix'd alkaline Salt, and in common Use its Virtues are cleansing, penetrating, attenuating, and resolving; so that any Mixture of an oily Substance with Salt may be call'd a Sope; hence Bodies of this Nature are call'd Saponaceous.

Ch. VI. thro' the various Stages of Life. 179 the Nature of Animal Diet must depend upon the Nature, Age, Food, and other Circumstances of the Animal we feed upon.

The Animal as well as Vegetable Juices are in their greatest Perfection, when the Animal is full grown; for young Animals partake of the Nature of their tender Food, as

Sucklings of Milking e.vd behilsup eranic od

or contrary to Acidity or Sourness; because no found Animal has any acid Salt in it, as has been often proved by Experiments. Those Animals that feed upon other Animals have their Flesh and Juices more alkalescent, that is, more anti-acid than those that live upon Vegetables; such are most Fishes, all Birds which feed upon Worms and Insects, several kinds of Water-Fowls, Woodcocks, Snipes, and several kinds of Mall Birds; which, for that Reason, afford a more exalted Nou-rishment than those that feed upon Grain or other Vegetables.

Animal Pless differs according as the Animal is terrestrial, aquatick, or amphibious; and the same Species of Animals differs according to the Soil and Air it lives in, and the Food which it takes; as those that live in Mountains and Marshes; the Flesh of Oxen, Sheep, Deer, and Hogs in different Pastur-

age.

Fishes abound more with alkaline Salt and Oil than terrestrial Animals; for which Reafon they are sooner corrupted: And amphibious Animals partake somewhat of their Na-M 2

ture by feeding upon them, and are therefore oily; and notwithstanding the Redundancy of Oil in Fishes, yet they do not increase Fat so much as Flesh-meat, by Reason of their watery Quality; and as Fish and Water-Fowls are highly alkalescent, and abound with a great deal of rancid Oil, they should be always qualified by a due Quantity of Salt

and Vinegar:

The most healthy Animals afford the best Aliment, and the Castrated are better than those that are not so; and the only Way of having found and healthful animal Food, is to leave them to their own natural Liberty in the free and open Air, and in their own proper Element, with Plenty of Food and due Cleanness, and a Shelter from the Inclemency of the Weather when they have a Mind to retire to it. Therefore we should never make Choice of cramm'd Poultry, or stall-fed Butcher's Meat for our Food, did we confider the foul, gross, and filthy Manner in which they are confin'd, and the stinking, putrid, and unwholfome Food with which they are fed, especially Poultry and Hogs: for we may be well affured, that perpetual Foulness and Cramming, gross Food and Filthiness will rot the Juices, and mortify the muscular Substance of human Creatures, and confequently can do no less in Brute Animals, and thus make even our Food Poison. Besides, stall-fed Cattle and cramm'd Fowls are often difeas'd in their Livers. The fame may be likewise faid

Ch. VI. thro' the various Stages of Life. 181 faid of Plants and Vegetables, forc'd and pro-

duced by Hot-beds.

Animals, Herbs, Fruits and Corn are to be chosen in high Places, such as are refresh'd with wholsome Winds and cherish'd with the warm Beams of the Sun, and where there are no Marshes, Lakes, and standing Waters; for in such Places they are quickly corrupted; and likewise the Flesh of all Animals that live in Fens and standing Pools are to be avoided, such as Ducks, Geese, &c.

The Flesh of Animals too old is unwholsome, being hard, dry, sinewy, and of little Nourishment, and hard to be digested; and on the contrary, such as are too young abound with too much Moisture, and are full of Supersluities, and therefore cannot nourish so well as an Animal full grown, in as much as they partake of the Nature of their tender

Food, as I have observ'd already.

Salt Fish produces gross Humours, and bad Juices in the human Body; for it dries much, and breeds many Superfluities, and is of little Nourishment; it occasions Thirst, Hoarseness, Acrimony, or Sharpness in the Blood, and Erosion of the small Fibres, Pains, and all the Symptoms of the Muriatick or briny Scurvy, upon account of the Salt, which is unalterable in all the Circulations of the human Body, and therefore very improper Food for all Constitutions, except some strong labouring People, and even in those it will produce very bad Effects, if they feed upon it M 2

for a Constancy, as we see in Sea-faring Peo-The fame may be faid of Salt Flesh.

The Flesh of Birds is lighter, drier, and eafier digested than that of four-footed Beasts. and for that Reason, more agreeable to those of a studious Profession, who exercises the Mind more than the Body; for as they are more easily digested, so they breed better Blood, that is, clear, clean, and full of Spirits, which is fit for the Exercises of the Mind.

The Flesh of the wild Kind of Animals, fuch as frequent Woods, high open Places, and Mountains, is better than that of tame ones, having more Exercise and no Confinement, have their Juices more elaborated, and their Flesh will keep longer uncorrupted; because they live in a better Air, and feed upon what they like best without Constraint; for the same Reason their Fibres are harder, especially when old. This Rule in fome meafure holds true with Fishes; for Sea-fish and River-fish living in an Element more agitated, are better than those in Ponds. For these Reasons Hippocrates commends the Flesh of the wild Sow preferable to the tame; and doubtless the Animal is more or less healthy, according to the Air it lives in; for the Flesh of the same Species differs very much, as the Animal lives in Marshes or Mountains, but berellets

Flesh boil'd is more wholsome (especially for weak Stomachs) than roafted; for boiling draws more of the rank and strong Juices

from

Ch. VI. thro' the various Stages of Life. 183 from it, and renders it more diluted, lighter, and easier of Digestion, tho' not so nutritive; but on the other hand, roasting leaves it fuller of the strong nutritive Juices, harder to digest, and wanting more Dilution it therefore those who eat the Flesh of full-grown Animals, ought to eat it well boil'd, if their They who live upon Digestion is weak. young animal Food, which is best for weak Stornachs, ought to eat it roafted, and leffen the Quantity in respect of the same Food boil'd, but they must dilute it more; for as roast Meat has a stronger Flavour, more Nourishment, and lies more compact in the Stomach; so it will require to be more diluted with some small Liquors to soften its more rigid and crifp Fibres.

Meats bak'd, fry'd, and broil'd, generate nauseous Humours and Crudities in the Stomach, and are very difficult to be digested,

tho' they are very nourishing.

Lamb, Veal, and Kid, afford excellent Nourishment, and are easy to be digested, and therefore proper Food for those of a se-

dentary Life and Rudious Professions.

Beef affords great Nourishment to those that labour and exercise much, and generates much Blood; but it is too strong for tender, weak, and sedentary People, especially when Stall-sed, and very large; for Grass Beef and M 4 Mutton

Dissolving or making thinner any Substance, with the Addition of Fluids or Liquids, which are called Diluents or Diluters.

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Mutton are lighter than Stall-fed Oxen and

Sheep.

Mutton breeds good Blood, nourishes exceeding well, and is easily digested; and by Experiment is found the most perspirable of all animal Food, and Hogs-Flesh and Oysters the least.

Rabits are of a good Nourishment, they consume the superfluous Moisture and Phlegm in the Stomach, and the Flesh is not near so dry as that of a Hare, and therefore nourishes better, and is much easier to be di-

gested.

Young Hares are very sweet and pleasant to the Stomach when well dressed, they are good for such as are too fat. It is said, that the Blood of a Hare fry'd and eaten, is good against the Bloody-Flux, inward Impostumations, and the Gravel in the Kidneys; and that the Brains of a roasted Hare cures Tremors, and facilitates the breeding of Teeth in Children; but the Moderns justly despise such whimsical and groundless Pracetice.

Pork and Bacon afford great Nourishment, but as they feed the foulest of any Creature, and their Juices are the rankest, their Substance is the most surfeiting; and as they are the most subject to + cutaneous Diseases and Putrefaction of any Creature, they are highly injurious to valetudinary, sedentary, and studious People; for they cause the Gout and

<sup>†</sup> Diseases of the Skin, such as Pimples, Scabs, Mange, &c.

Ch. VI. thro' the various Stages of Life. 185 Stone in Kidneys, Scurvy, and cutaneous Eruptions. The Flesh of sucking Pigs is endued with the same bad Qualities, tho' not in so great a Degree.

Brawn made of the Flesh of young Boars is tolerable good eating, having not so much Slime and excrementatious Moisture as Pork, Pig, and Bacon; but the hard and horny Part

is very difficultly digested.

Deer affords good Nourishment, and is apt to make lean such as are too fat, according to the Observations of some Authors; but I very much doubt the Veracity of such Assertions, for it seems even contradictory to say, that whatever affords good Nourishment, shou'd render corpulent and sat People thin or lean.

Of all the Parts of Birds and other Beasts, some are better than others; for all the Extremities, as the Head, Neck, Feet, and Tail, in respect of the rest, are of a hard, viscid, and gross Nourishment; but the Parts about the Wings, Back and Breast, are better, and

more favoury.

Cream, Butter, and Marrow, are all lenient and nourishing: Marrow is excellent in the dry Scurvy with crackling of the Bones, where it performs its natural Office in moisten-

ing them.

Cheese that is new fattens, tastes pleasantly, and is not very injurious to the Stomach, especially Cream-Cheese, which is the best and most wholsome when newly made. Cheese Cheese of no kind is good for Children or weak People, for it lies too heavy in the Stomach, is apt to breed Slime and Worms in Children, and it ought to be eaten only after Meals, to close up the Mouth of the Stomach at such times; but too much of it is bad at any time, especially old Cheese, for it occasions Thirst, inflames the Blood, and is often the Cause of the Gravel and Stone in the Kidneys or Bladder; therefore it is only proper for *Mechanics* and labouring People, or those that are strong and healthy, and use much Exercise.

Milk is a most noble, nourishing, and wholsome Food; it is neither Acid nor Alkaline; but when there is an Acid and Alkali mix'd in it, they presently manifest themselves by their Fermentation and Conflict. Milk, after standing some Time, naturally separates into an oily Substance called Cream, and a thinner, blue, and more ponderous Liquor called skimm'd Milk, and neither of these Parts is naturally acid or alkaline, nor in the least acrimonious; for being dropp'd into the Eye, they cause no manner of Pain or Sensation of Sharpness; but by standing too long, they will turn both sharp and four. Milk is a kind of Emulsion, or white animal Liquor, resembling Chyle, after it has been mixed with the Spittle, Bile, and pancreatick Juices, &c. is easily separated from them again in the Breafts.

Ch. VI. thro' the various Stages of Life. 187

A Nurse that would abstain from all acid vegetable Food, from Wine, and Malt Liquots, and feed only upon Fleth, and drink Water, her Milk, instead of turning four, would become putrid, and finell like Urine; fo that an alkalescent Diet H, (as is often the Case of Nurses in great Pamilies) subjects the Child to Pevers; but on the other hand, the Milk of poor People that feed apon an & acescent wegetable Diet, subjects the Child to Discases that proceed from Acidity in the Bowels, fuch as Colich, Gripes, the Symptoms of fuch a Constitution are a four Smellin their Excrements, four Belchings, Diftenfions of Swellings of the Bowels, and Paleneis of the Fleih: hands many ando swiths

The Cure of both Diseases is effected by a Change of Diet in the Nurse, that is, from Alkalescent to Acescent, or contrary ways, as the Case requires. But the best Diet for Nurses is a Mixture of both, and no Nurse should give Suck after twelve Hours safting; for then her Milk is apt to turn yellow, which is an early Sign of a Fever in the Nurse.

It appears from the fore-mention'd Qualities, that Milk is a very proper Diet for human Bodies, especially for thin, hectical, and

† Alkalescent Diet is the Flesh, Broths, and Juices of all Animals, both Terrestrial and Aquatick, which in a found State have no manner of Acid in them, as is very well known by Experiments.

An Aceseent wegetable Diet, is taken from Plants, Fruits, and their Juices, and all fermented Liquors, which are either

actually acid, or naturally turn fo.

emaciated People, and where Acrimony in the Blood and Juices is to be subdued or avoided; but it is not proper for those that are troubled with the Colic or Stone, neither is it proper in Obstructions of the Vessels, it being void of all faline Quality.

Whey is good for such as are of a hot Constitution, it quenches Thirst, promotes Sleep, and of all Drinks is the most relaxing, and is a powerful Remedy in the hot Scurvy.

The different Nature of Birds is known by the Time, Age, Food, Place, and Air they live in; because Domestick as well as Wild Fowl, grow lean; and feed little at the Time of their coupling. And some Birds are best in Spring or in Summer, at which Time they feed upon Corn; others in Autumn, because they eat Grapes, Figs, Apples, Berries, and fuch like. Others again are best in Winter, fuch as Thrushes, Blackbirds, wild Geese, Cranes, and all Water Fowl.

Some live on Worms, Infects, and Fish, as Woodcocks, Snipes, &c. but most feed on Grain, as Pigeons, Doves, and all Domeflick Fowls, and the like: Some are nourish'd on Land, others in Rivers, Lakes, and in the Sea, and a great many Birds feed upon Herbs; and it is very remarkable, that the Flesh of wild Fowl has always the Taste of fuch Things as they feed on, as Fish, Slime, Mud, Worms, and other Infects.

Mountain Fowls are always preferable to the rest; besides, castrating or cutting a Fowl, renders Ch. VI. thro' the various Stages of Life. 189 renders it fat and sweet, as appears in the Flesh of Capons; and the Flesh of young Birds is always better than that of old ones.

Duck is the hottest of all tame Fowl; the Wings and Liver are the best, but of hard Digestion, and gross Nourishment; it is good in cold Weather for strong Stomachs, and such as labour much.

Fowl, and breeds good Blood and Juices in the human Body.

Pigeons afford good Nourishment; they are very hot, and therefore only proper for old and phlegmatic People, or such as labour much, who generally speaking, will digest any Food without any Trouble or much Danger.

Pheasants are very agreeable to human Nature; they comfort and strengthen the Stomach, afford great Nourishment, and fatten very much hand and say years in whole

Pullets nourish exceeding well, are easily digested, and generate good Blood and sound Juices; but old Hens are dry, hard to be digested, and afford little Nourishment; and the Flesh of a Cock is drier, hot, and fulphurous, and therefore very improper Food for any Body, and fit for nothing else than to make Broth of it, with a little Mutton, Veal, or both.

Geese, especially the young Geese, afford good Nourishment; but old ones, that seed and live in Fenny Places, are coarse, and hard

190. A GUIDE TO HEALTH Part III hard to be digested, and not sit Food for tender People, or weak Stomachs

Turkey is good Food, and affords good Nourishment, but harder to be digested than Capon ou Pullet, yet a Turkey-Pout is delicate cating, breeds good Blood, and Is easily

ordu Weither for House Stone Shall Signer

Partridges afford good and sweet Nourishment, and are eafily digested; they fatten, and likewife dry up the superfluous Moisture of the Stomach, and contribute much to the Preservation of Health, their Plesh being better than that of Pullers. tons , for they am

111 Phvers, especially the Grey Sort, are good wholfome Food, and afford good Nourishment, only they are comewhat of melancholy Juice, according to some Writers.

Blackbirds nourish sufficiently when they are fatdand young; but they are hard of Difull after great Nourithment, auchoring

Larks, if they are fat, nourish well, and are easily digested; they are best in Autumn and Winter. old body strong bus bologib

Sparrows, when young, afford good Nourishment, and are reckon'd to be Provocatives; but they are not easily digested.

Peacocks nourish poorly, and are of a hard and flow Digestion, and breed melancholy Blood, therefore not worth any Body's eating. 100

Stares, if young and fat, nourish pretty well,

but old ones are good for nothing.

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Thrushes nourish very well, and are casily digested, and the Mountain Thrushes are the best.

Quails are very nourishing, and pleasant to the Taste, they are likewise good for melancholy People; but some Authors say, that they cause the Cramp, and falling Sickness, with which it is said, this Bird is troubled. This, by the by, I take to be only the groundless Opinion of some credulous and whimsical Writers.

Turtle Daves nourish exceeding well, and are easily digested; they are good for the Stomach, and, according to some Authors, quicken the Understanding.

Woodcock, Snipe, and all other long-billed Birds that fuck only animal Juices, or that feed upon Worms and other Infects, have their Juices more elaborate and exalted than those of Pullets, Turkeys, Pheasant or Partridges, and for that Reason they are much harder to be digested, that they are very nourishing.

Fish in respect of Flesh is less nourishing, because it is gross, phlegmatic, cold, and full of watery Superfluities. The old nourish better than the young, and those that live among Stones, Rocks and Gravel, are best.

Fish in general are hard of Digestion; for they feed upon one another, and their Juices abound with an alkaline Salt, that corrupts the Blood and causes chronical Diseases; for it is very remarkable, that those who live much

much on Fish are afflicted with the Scurvy, Breakings out upon the Skin, and other Difeases of a foul Blood: Besides, a true Sign of their Indigestion is, that every Body finds himself more thirsty and heavier than usual after

a full Meal of Fish, tho' ever so fresh; and is commonly forc'd to have Recourse to a Dram of some Spirit or other to carry them off.

be of the Reader. The following Rules concerning Fish may

First, That all fresh Fish should be eaten bot, and to eat less of Fish than of Fleshmeat 2dly. Not to eat them too often, nor after great Labour and Exercise; for then they eafily corrupt; neither should they be eaten after other folid Food and dly, Fish and Milk are not proper together; nor are Eggs to be used unless with Salt-Fish. 4thly, Great and flimy Fish are better pickled than fresh; and observe, that the clearer and deeper the Water is, the better are the Fish that are nourish'd therein. 5thly, Sea-Fish are wholfomer than fresh-water Fish; for they are hotter and not so moist, and their Nourishment comes near that of Flesh-meat. 6thly, Of all Sea and River Fish, those are best that live in rocky Places; next to these, in gravelly or fandy Places, in sweet, clear, and running Water, where there is no Filth: but those Fish are bad that live in Pools, muddy Lakes, Marshes, and in any still or muddy Water. 7thly, Amongst all the Fish both Sea

Ch. VI. thro' the various Stages of Life. 193
Sea and River, those which are not too large are the best, and which have not hard and dry Flesh, that taste and smell well, and are crisp and tender, and have many Scales and Fins. 8thly, Fish are bad for cold and phlegmatic Constitutions, and only proper for hot and choleric People. The best Way of dressing Fish is to broil it; to boil it is the next, and to fry it is the worst.

Eels for want of Exercise are sat and slimy; they are of a delicate Taste, and nou-rish very much; but they offend the Stomach, and are hard to be digested, and being used too often, are apt to breed the Stone in the Kidneys and Bladder, and occasion the Gout and Spasmodic Disorders; therefore whoever eats much of them, and often, en-

dangers his Health.

Carp of all Pond-fish is certainly the best, and the most noble, being of a very pleasant and grateful Taste, and nourishes well, in

whatfoever manner it is eaten.

Lampreys are of great Nourishment; they are of a most delicate Taste, and are also Provocatives; but they are hard of Digestion, and bad for gouty People, and such as are troubled with Convulsive Disorders.

Pike is a clean, found Fish, and nourishes

very much; but is of hard Digestion.

Sturgeon nourishes well, and excites Venery; but is very hard to be digested. Of the Spawn or Row of this Fish pickled, is N made

made what is called Caveer, which excites Appetite, and makes Liquor relish well.

Crabs and Lobsters are much of the same Nature; the Broth of them is good for thin and emaciated People, for they nourish very much; but they are, like all other Shell-Fish,

hard to be digested.

Oysters are very nourishing, and preferable to all Shell-Fish, and ought to be eaten always before Dinner, and never to drink spirituous Liquors upon them, which harden them in the Stomach, and prevent their being digested. They are likewise very hard of Digestion when stew'd; therefore the Substance of them dressed in that manner is very improper for weak Stomachs. They cure the Heart-burn proceeding from Acidity or Sourness in the Stomach, and are proper Food in such, and many other Cases.

Turbut, Soles, and Plaice, are highly commended among Sea-Fish; for they have delicate Flesh, and afford very good Nourishment, are not easily corrupted, nor hard to

be digested.

Pearch are reckon'd fine Fish; but they have soft, moist, and tender Flesh; they nourish but little, and are full of Excrementitious Juices, therefore they are not near so good as People imagine them to be.

Tench are very nourishing, but hard of Di-

gestion.

Gudgeons and Smelts, of all small Fish are the best; they are wholsome Aliment, easily digested, Ch.VI. thro the various Stages of Life. 195 digested, and may be as safely given to sick. People as Whiting, unless they are fry'd.

Flounders are good wholfome Aliment enough, and proper now and then as a Change for fickly People, and weak Stomachs, as

they are not hard to be digested.

Salmon is grateful to the Palate, and very nourithing, affords good Juices, but is too luscious to make a hearty Meal upon it, or

live on it for any confiderable Time.

Trout is delicate eating, nourishes very well; the biggest, and such as is bred in gravelly Rivers, and sweet running Waters, is best. Trout is good for hot and young People, but bad for those that are decrepid, and for phlegmatick Constitutions.

Cod-Fish, when fresh and in Season, is very good Nourishment, and not hard to be digested; but if it be dry or Salt, it is gross

Food, and of hard Digestion.

Haddock is much of the fame Nature, but drier, yet it affords very good Nourishment.

Nourishment, and delicate eating, when rightly manag'd; for if they are newly taken and dressed, they are scarcely digestable even by the strongest Stomachs; but if they are too stale, then they smell Urinous, and are in a State of Putrefaction.

Barbel is very pleasant to the Palate, and the little ones are better than the great, and such as live in stony Places, and clear running N 2 Waters; 196 A GUIDE to HEALTH Part II.

Waters; but their Flesh being hard, are not easily digested. The Roe of this Fish is carefully to be avoided, it having the Quality of a strong Cathartick.

Mackarel are very agreeable to the Taste; but their Flesh being hard, dry, and easily corrupted, is of little Nourishment, hard of Digestion, and therefore not proper Food for

tender, weak, or fickly People.

Herrings afford a great deal more Nourishment than the former; but their being so very hard of Digestion, renders them improper for every Body, except some hard la-

bouring People.

Sprats newly catch'd, and being either boiled or broil'd, afford good Nourishment, and are very agreeable to the Taste; but they are windy, and for that Reason not proper for such as are subject to Flatulency.

Here it will be very necessary to give Attention to the following Particulars in the

Choice of our Aliments.

1. That those Vegetables and Animals that come soonest to Maturity, are lightest of Digestion: thus the Spring Vegetables, such as Asparagus, some Sorts of Sallading, and Strawberries, are more easily digested than Pears, Apples, Peaches, and Nectarines; because they have less of the Solar or Sun-Fire in them; for their Parts are united by a weaker Heat, that is, with less Velocity, and besides they contain little or no strong or fix'd Salts.

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2. Among Animals, the common Poultry, Sheep, Kids, Hares, and Rabits, &c. which come to their Maturity, and propagate their . Species in the same or a few Years, are much more tender, and readily digested, than Cows, Oxen, Boars, &c. for the Reason already given; and because their Parts cohere less firmly. And it is observable, that Vegetables which are longest in ripening, that is, whose fuices contain most of the Solar Heat in them, their fermented Juices produce the strongest vinous Spirits, such as Grapes, Elder-Berries, and the like: and that Animals, which are longest coming to Maturity, their Juices yield the most rank and most fœtid urinous Salts.

3. That the larger and bigger the Vegetable, or Animal is in its Kind, the Food made thereof is the stronger, and harder to be digested. Thus a large Onion, Apple, or Pear, and large Beef and Mutton, are harder to be digested than the lesser ones of the fame Kind; not only, as their Veffels being stronger and more elastic, their Parts are brought together with a greater Force; but also, because the Qualities are proportionably more intense in great Bodies of the same Kind. Thus a greater Fire is proportionably more intenfely hot than a leffer one; and likewise, the Wine contain'd in a larger Vesfel becomes stronger than that contain'd in a lesser, and consequently the Juices of larger Vegetables and Animals are more rank N 3

than those of smaller ones of the same Kind.

4. Sea-Fish or Animals, are harder to digest than Land Animals; because, generally speaking, their Food is other Animals; and the Salt Element in which they live, renders their Flesh more firmly compact, Salts having a stronger Power of Cobesion + than any other Bodies. And for the same Reason, saltwater Fish is harder to digest than fresh-water Fish.

5. Vegetables and Animals, that abound with oily, fat, and viscid Substance, are harder to digest than those of a drier, fleshy, and more fibrous Substance; because oily and fat Substances commonly elude the Force and Action of animal Digestion, especially in such as have little Exercise and weak Stomachs; for their Parts attract one another, and unite more strongly than any other Substances, except Salts; inafmuch as their Softness and Humidity relax and weaken the Tone and Force of the Stomach, the Fat and Oil being thut up in little Bladders, that are with Difficulty broken and separated. Thus Nuts of all Kinds, as they contain a great deal of Oil, pass thro' the Alimentary Dust almost undigested; for the same Reason, Olives are more difficult to digest than Rease, and fat Meat than the lean of the fame.

6. That all Vegetables and Animals of a strong, pungent, and aromatic hot Taste, are harder

<sup>+</sup> Sticking together.

Ch. VI. thro' the various Stages of Life. 199 harder to diget than those of a softer, milder, and more infipid Taste; because such Substances abound with a great deal of Salts, or an Oil extremely active and heating; for high Relish comes from abundance of Salts and exalted Oils. A great deal of Salts supposes such Vegetables and Animals as are a long time coming to Maturity; and where Salts abound, the Fibres are dryer, harder, and more firmly in Contact with each other; for that Reason they are more difficultly sepa-

rated, and harder to be digested.

But however, Sea-Salt, or Rock-Salt, being fixed and of the same Nature, of all Seasonings is the best, without which no Food is good, and is used by Mankind in their Aliments for the following Reasons. 1. That thereby the Food may descend easier into the Stomach, and render it more favoury. 2. Because it resists Putrefaction; consuming by its Dryness, that Moisture whereby Putrefaction might have been occasion'd. 2. It excites the Appetite, and digestive Faculty, and prevents Nauseating. 4. It dissolves, attenuates, and dries up the superstuous Moisture, provokes the Bowels to discharge the Excrements, and is therefore used in Clysters and Suppositories. Besides, as all animal Substance contain no fix'd Salt, they want the Affistance of those, in order to promote Digestion, which preserve them both within and without the Body from Putrefaction; and as these fix'd Salts pass unalter'd thro' all the Strainers of a N 4 human

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human Body, the moderate Use of them is very proper to preserve Bodies through which

they pass from Corruption.

But on the other Hand, the immoderate Use of Salt produces a Multitude of woeful Disorders; such as Melancholy, Vapours, and bad Nourishment; it dries up the Blood, and causes the Muriatick, or Briny-Scurvy, Scabbiness and Itch, Ring-worms or Tetters, and even the Leprosy, with a great many other soul Humours and Eruptions in the Face and other Parts of the Body; and likewise it occasions Obstructions in the Urinary Passages, which oftentimes produce Ulcerations, Stone, and Gravel in the Kidneys and Bladder.

And it will eafily appear, that Salt can produce all these bad Effects, if we consider that Salts confift of bard and plain Surfaces, and in all Changes recover their Figure, and unite the most firmly of all Bodies whatever; for their plain Surfaces bring many Points into Union and Contact, and their Hardness and constant Figure render them durable and unalterable; and thereby the active Principle, and Origin of the Qualities of Bodies, if in a strict Sense there be any such Thing as a Principle; and when they approach within the Sphere or Limits of one another's Activity, they firmly unite in Clusters, all which render the Separation of their original Particles the more difficult, and by that Means they obstruct the cuticular Glands, which are the Emunctories or Strainers of the whole Body, thro'

Ch. VI. thro' the various Stages of Life. 201 thro' which not only the peccant Humours país, but likewise the greatest Part of the Liquors we drink, after having convey'd the Aliments into the Blood, being part of their Office, and in the next Place to dissolve the faline or terrestrial Particles to be carried off thro' the Glands of the Skin and Kidneys. So that when Salts adhere and unite in Clufters in the excretory Ducts of the Glands of the Skin. or the Kidneys, in the former they stop and pen in between the Scales of the \* Scarf fkin the excrementious Humours, which ought to be carried off by insensible Perspiration, and thereby corrode the Skin, and produce Scurvies, and other cutaneous Eruptions; in the latter, they cause Inflammations, Ulcerations, Suppression of Urine, and, as I have obferved before, Stone and Gravel. Thus we may plainly fee, how the immoderate Use of Salt is capable of producing not only all the Diforders already mentioned, but likewise a great many more in the animal Oeconomy.

Honey is the most accurate or exact Production of the vegetable Kind, perform'd by the Bee, being a most exquisite vegetable Soap, resolvent of the Bile, balsamick and pectoral: It is likewise detersive and opening,

provokes

It is the outermost Covering of the Body, and is that fost Skin which rises in a Blister upon any Burning, or the Application of a Blistering-Plaister. It sticks close to the Surface of the true Skin, to which it is tied by the Vessels which nourish it, tho' they are so small as not to be seen.

provokes Urine, and cleanfes its Passages, and is excellent for old and phlegmatick People of a cold Constitution; for it warms the Stomach, moves the Body, refifts Corruption, and breeds good Blood; but fometimes it causes Wind and Gripes in some Constitutions.

Oil of Olives is fweet and pleasant, and very agreeable to Nature; and it is best when two Years old, and ought to be made of ripe Olives. ft valt remot edi ni exvenbili ede ro

Orl of Sweet Almonds, when fresh drawn, is next to it in Goodness, and much properer for Sick People, it being of a cooler Nature, and more easily digested, the not so agreeable to the Palatenel suconnuis and but

Oil fattens, and taken in great Quantities, is excellent to expel Poilon by vomiting, and by sheathing the Coats of the Stomach from its corrofive Salts; but eating Oil too often destroys the Appetite, because all Oils are very hard to be digested, as I have already proved.

Vinegar . The best is that which is made of the best Wine: It is an Acid of very peculiar Quality, different from that of all other Acids; for it is cooling, and yet not coagulating; for it gently dilutes the Serum of the Blood, as has been often proved by Experiments. It is inciding, digestive, and opening. It is good against the Redundancy of Bile, and to extinguish the Heat of Choler and Thirst. It strengthens the Gums, excites the Appetite, removes Obstructions, helps Digestion, and is good for hot Stomachs, and refifts

Ch.VI. thro the various Stages of Life. 203. fifts Putrefaction; therefore it is very useful an gainst pestilential Diseases, especially in Time of the Plague: But too much Use of it breeds melancholy Humours, injures the Nerves, emaciates some Constitutions too much, offends the Breast, and makes People look old and withered, with pale Lips,



not restorage spice that yet bonism and emits W

## Foreign C HA P. VIII

Of the Power of Aliments upon human Bodies, with their good and bad Effects.

ALL Bodies which can be changed into the Fluids and Solids of our Bodies by the animal Powers, are called Aliment, as has been observed in the first Paragraph of Chap. VI. And to take it in the largest Sense, by Aliment is understood every Thing which a human Creature takes in common Diet, as Meat, Drink; and Seasoning, as Salt, Spice, Vinegar, &c.

Our Food therefore consists, not only of such Particles as are proper for the Nourishment and Support of the Body, but likewise contains in it certain active Principles, such as Salts, Oils, and Spirits, &c. which are endued with such Properties, as both to vellicate and stimulate the Solids, to quicken the Circulation, and by attenuating the Fluids, render them

more

more fit to undergo the necessary Secretions of the Body. The Art then of preferving Health, and obtaining long Life, chiefly confifts in a Mediocrity of fuch Diet as neither increases the Salts and Oils, fo as to produce Distempers, nor too few, fo as to fuffer the Solids to become too much relaxed; and if this defirable. Medium be attained, by following the common ordinary Diet of the healthiest People in any Country or Climate; that is then, indifputably, the best Method in general to preserve Health.

For it is certainly true, that the infinitely wife Creator has provided Food proper and peculiar to every Country and Climate, which is best for the Support of the Creatures he has placed therein, as may be seen by the Chearfulness and Health of the middling Sort of People of all Nations, who use only a simple Diet, without lusting after voluptuous or foreign Delicacies. Yet the Diseases of human Bodies often require Substances of more active Principles than what are found in common Aliment, in order to produce fudden Alterations; but where fuch Alterations are not necessary, the same Effect may be obtained by the repeated Force of Diet, with more Safety to the Body, where the fudden Changes are less to be apprehended. The smaller Activity of the Aliment is compensated by its Quantity; for according to the Laws of Motion, if the Bulk and Activity of Aliment and Medicines are in reciprocal Proportion, the Effeet will be the same; for they both only bring about

ch.VII. thro' the various Stages of Life. 205 about the Effect, by acting either upon the Solids or Fluids, or upon both; upon the first, by stimulating, contracting, or relaxing; upon the last, by attenuating, coagulating, or rendering them acrimonious or mild, or by increasing or diminishing their Motion through the Vessels.

That all these Actions can be performed by Diet as well as Medicine, is evident from Reason, Experience, and in some Cases by ocular Demonstration; as in Chirurgery, in Wounds and Sores, where the Influence of Diet upon them is plainly seen; for a Diet too relaxing weakens the Spring of the Veffels fo much, that they cannot sufficiently refift the Influx of the Liquid, and fo begets a a Fungus, or proud Flesh; and when too astringent, it produces a Cicatrice, or callous Substance. The Effects of warm Water and mealy Substances in relaxing; of Spirits, in stopping Hamorrhages, or Fluxes, and confolidating the Fibres; the Power of Alkaline Absorbents in subduing Acidity, and Oil in stopping Perspiration, is very well known to both Physicians and Chirurgeons.

All those Substances which stimulate the solid Parts, produce the greatest Alterations in animal Bodies; for violent Sneezing produces Convulsions in all the Muscles of Respiration, and an universal Secretion of all the Humours, as Tears, Spittle, Sweat, Urine, &c. And even all this Alteration can be produced by the tickling of a Straw or Feather;

there-

Therefore acrid or sharp Substances, that are minute enough to pass into the capillary Tubes, must stimulate the small Fibres, and irritate them into greater Contractions. And many Things which we take as Food, or with our Food, have this Quality in some Degree: Such as the Juices of acid Vegetables, sermented Liquors, especially sharp Wines, and sermented Liquors, especially sharp Wines, and sermented Spirits; aromatical Vegetables, as Savory, Pennel, Thyme, Garlick, Onions, Leeks, Mustard, all which abound with a volatile pungent Salt; and, in short, all Spices in general, and all Vegetables, which being corrupted, easily refolve themselves into a sected, oily, alkaline Substance.

The folid Parts of an animal Body may be contracted variously: First, by dissolving their Continuity. For as a Fibre is cut through, it contracts itself at both Ends; therefore all Things that are so sharp as to destroy the small Fibres, must contract them. Secondly, Whatever empties the Vessels, gives Room to the Fibres to contract; so that Abstinence produces this Effect in the best Manner: And whatever shortens the Fibres, by infinuating itself into their Parts, as Water in a Rope, contracts them; and sermented Liquors possels this Quality in a great Degree.

The more sulphurous or chymical Oil any Spirit contains, the more pernicious it proves to the human Body, because it is harder to be wash'd away by the Blood; therefore Brandy is more easily carried off than Spirit of Ju-

Ch.VI. thro the various Stages of Life. 207 niper; and that than Spirit of Annife-feed or Rum. Compound aromatical Spirits destroy, first, by their fermentative Heat: 2dly, By their oily \* Tenacity: 3dly, By a causeic Quality residing in all Spices apt to destroy the folid Parts. However these Qualities may render them proper in some Cases, taken in Nature : allo fiell Oak

small Quantities.

Austere acid Vegetables have this Quality of contracting and strengthening the Fibres; without a great many of the bad Effects of distilled Spirits, fuch as all Sorts of Sorrely the Virtues of which confift in an acid, aftringent Salt, which is a Sovereign Remedy against a putrescent, bilious Alkali; and several kind of Fruits, as Quinces, some Sorts of Pears, with the Marmalades made of them? likewise Medlars, Capers, Barberries, Pomegranates, and Purstain, all such are easily diffinguish'd by a rough and styptic Taste. And amongst Drinks, austere Wines, unripe Fruits likewise have the same Quality; but they are apt to cause foul Eruptions on the Skin, to obstruct the Nerves, and occasion Palhes.

Relaxing the Fibres, is rendering them flexible, or easy to be lengthen'd without Rupture or Breaking, which is perform'd only in

the capillary vafcular Solids.

Of all Liquids endued with this Quality of relaxing, warm Water is the first; and next to it, the watery Decoctions and Infofions of Mealy

<sup>\*</sup> Adhering or sticking together.

of Mealy Vegetables, or Grains, as Oats, Barley, &c. likewife all sweet and mild Garden
Fruits, and almost all Pot-Herbs, as Spinage,
Beets, Cabbage, Coleworts, and all that Class;
lastefcent Plants, such as yield a milky Juice,
as Lettuce, Succery, and Dandelson, if unfermented, for Fermentation changes their
Nature; also fresh Oils of mild Plants, or
Nuts, Cream, Butter, Marrow, and Whey;
all which Things help to weaken and relax
the Fibres, and are therefore proper Remedies for a too rigid, strong, or elastic State.

The Qualities of the Fluids of a human Body can be likewise chang'd by Diet; as by attenuating or diminishing the Cohesion of the Particles of the Fluid: and the Cohesion of the Particles depends upon the Weight and Quantity of Fluids; therefore Abstinence and a slender Diet attenuates or thins them, because emptying the Vessels gives room to the Fluid to expand or dilate itself. Besides, whatever penetrates and dilutes at the fame Time, as Water impregnated with some penetrating Salt, attenuates very powerfully; and the great Effects of medicated Waters may be justly ascrib'd to this Quality; likewise all saponaceous Substances composed of Oil and Salt, such are Honey, and the Robs and Gellies of most Fruits; Vinegar and Honey mix'd is a powerful Resolvent. All stimulating Substances, by increasing the Motion of the Blood, attenuate, unless they increase the Motion

Ch. VII. thro' the various Stages of Life. 209 Motion so much, as at last to produce Coagu-

lation.

The second manner of operating upon the Fluids is by thickening the Blood, which is perform'd by dissipating the most liquid Parts of it by Heat, or by infinuating some Substances which make the Parts of the Fluid cohere more strongly: and the acid, austere Vegetables just now mention'd, have this Quality of condensing the Fluids, as well

as strengthening the Solids.

Another manner of operating upon the Fluids, is by increasing or lessening their Quantity: and the first is effected by a plentiful Diet, and the Suppression of Evacuations; the latter, either by a spare Diet, or promoting the animal Secretions, that is, expelling the Fluids out of the Body; which may be perform'd by Substances that are laxative, as animal Oils, fresh Butter, Cream, Marrow, or fat Broth; the Oils of mild Vegetables, as that of Olives, Almonds, and the Fruits themselves; likewise all oily and mild Fruits, as Figs, and most Garden Fruits, by the Salts they contain, lubricate the Intestines; and some Japonaceous Substances which stimulate gently, as Honey, Hydromel, or boil'd Honey and Water, and even brown Sugar. Besides, Substances that are diuretick, are proper for this Intention, such as Whey, and Salts of all Kinds, Parfley, Celery, Sorrel, Chervil, Afparagus, Eringo, and Nutmegs, &c.

Acrimony or Sharpness is not natural, but introduc'd into the Fluids of animal Bodies, either by Sickness, as in Cachexies, or ill Habits of Bodies, and Scurvies, &c. or by Diet that is either briny or acid, which confifts of two Sorts, that is, of Things naturally acid, or render'd so by Fermentation; or alkaline aromatick Substances, confisting of Salts, and highly exalted Oils intimately united, which by increasing the Velocity of the Blood beyond what is natural, occasions an Attrition of the Parts, and thereby disposes the Blood and Juices to an alkaline Acrimony.

But the Juices of found Animals confift of Water impregnated with Salts of a peculiar Nature, which are neither acid, nor perfectly volatile; for, in the Evaporation of human Blood by a gentle Fire, the Salt will not rife, but only the Spirit and Water, nor perfeetly fix'd; for human Blood calcin'd, yields no fix'd Salt, nor is it a Sal Ammoniac; for that remains immutable after repeated Distillations, and Distillation destroys the ammoniacal Quality of animal Salts, and turns them alkaline. So that it is a Salt neither quite fix'd, nor quite volatile, nor quite acid, nor quite alkaline, nor yet quite ammoniacal; but foft and benign, approaching nearest to the Nature of a Sal Ammoniac.

Hence we may eafily perceive, that the elementary Salts of found Animals are not the same as they appear by Distillation; for these AlteCh. VII. thro' the various Stages of Life. 211 rations are produc'd by Fire: and those Salts are of a peculiar, benign and mild Nature in healthy Persons, who have \* vital Force to subdue all the Substances they feed upon; but in such who have not that vital Force, or commit some Errors in their Diet, these Salts are not sufficiently attenuated, and retain their original Qualities, which they discover in Cachexies, or ill Habits of Bodies, Scurvies of several Kinds, and many other Distempers; the Cure of which chiefly depends upon the Choice of Aliment with Qualities opposite to the Nature of these Salts.

Acrimony in the Blood commonly confifts of three Sorts, according to the Nature of the Salts in which it refides; that is, either Acid, Alkaline, Muriatic, or briny, as in the Sea-Scurvy; but this last approaches more towards the alkaline State, and admits of the fame Cure. Acid Acrimony resides chiefly in the first Passages, that is, the Stomach and Intestines, proceeding often from the Weakness of Digestion, and the too long Duration of Vegetables, and Milk, or fermented Liquors in the Stomach All animal Substances are alkalescent; and of Vegetable Substances some are acid, others alkalescent, and each Sort is to be used according to the two different Intentions hereafter mention'd.

O 2) Ila visin

<sup>\*</sup> By vital Force, is understool the Sum of all these Powers in an animal Body, which converts his Aliment or Food into its own Nature.

The proper Diet for the Cure of the acid Acrimony, are Vegetables of all Kinds, as Garlick, Onions, Leeks, and Celery; the antiscorbutick Plants, as Cresses, Brooklime, Scurvygrass, &c. Carrots, Turnips, Potatoes, Eringo Roots, Asparagus, Horse-radish, Mustard, and Cabbage. All animal Substances being likewise Alkalescent, or contrary to Acidity, are also very proper Food in this Disorder, more particularly all Fishes of the Shell-kind. Water, by its diluting Quality, subdues Acidity very powerfully. Oils are Anti-acids, so far as they blunt Acrimony; but as they are sometimes hard of Digestion, they may produce Acrimony of the alkaline Sort,

The alkaline Acrimony being opposite to the former, is cur'd by a proper Diet made of the Decoctions of farinaceous or mealy Substances, especially such as are made of Oats are proper, as having an acefcent Quality. Therefore this alkaline Acrimony requires a plentiful Use of Vinegar, and acid Fruits, fuch as Oranges, which contain a Juice most effectual in the Cure of the muriatic or bring Scurvy of Sea-faring People; the Juice of Lemons is likewise proper, and more cooling and aftringent than that of Oranges: and in this Case all the mild Antiscorbuticks are indicated, as Sorrel, Cichory, Endive, Lettuce, and Apples, &c. and of Liquids Whey. On the contrary, all the acrid Antiscorbuticks, as Horse-radish, Mustard, and Scurvygrass, &c. are very hurtful in this, and all other hot Other Scurvies.

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Other Sorts of Antiscorbuticks proper in this alkalescent State of the Fluids, are called Astringents, such as Pomegranates, Capers, and most of the common Pickles prepar'd with Vinegar. And as the Extremity of Alkali is Putrefaction; fo all acid Substances, and Sea-Salt, refift fuch a putrescent Quality in the Fluids; but as the latter is a sharp folid Body, and unalterable in all the Circulations of the animal Body, and when it is taken constantly in a Diet of Salt Meat in too great Quantities, (as I have taken Notice of in the latter End of the preceding Chapter) it breaks the Vessels, produces Erosions of the solid Parts, and all the Symptoms of the bring Sea-Scurvy, which is to be cur'd by acid Vegetables, and not by the hot Antiscorbutics, as I have just now observ'd.

There are other Sorts of Substances which are proper in the Cure of both Sorts of Acrimony, which are demulcent or mild, because they sheath these sharp Salts, as farinaceous or mealy Pulse, such as Pease, Beans, Lentils; native Oils of Animals, as Cream, Butter, Marrow. Likewise all Plants that are without Smell or pungent Taste are demulcent; and also all the alimentary Parts of sound Animals; for none of their Juices will hurt or smart either the Eye or a fresh Wound.

As Liquors make a confiderable Part of our Aliment, it will not be improper to give a short Account of their principal Qualities in O 2' this

this Place, before I treat of different Constitutions, with the Diet proper for each in Particular.

Drink being an effential Part of our Food. is either Water, Milk, or Whey; or fermented Liquors, such as Malt Liquors of different Sorts, Cyder, Wines, or a Mixture of these: And as the chief Intentions of Drink are, 1st, To moisten and convey our Food into the Stomach, and the Nutriment thereof to the respective Parts of the Body, and to allay Thirst; 2dly, To dilute the Blood, that it may circulate through the minutest Vessels; adly, To dissolve and carry off, by Urine and Perspiration, the superfluous Salts we take in our Food, which are unalterable in a human Body, as I have observ'd in one or two Places already: fo pure Water answers all these Intentions best, except in some few Cases hereafter mentioned; for no Liquor that we drink will circulate fo well, or mix with our Fluids fo immediately as Water; because all other Liquors we drink are impregnated with Particles that act strongly either upon the Solids or Fluids, or both; but as Water is the only simple drinkable Fluid, and being altogether inactive, so it is the fittest and most innocent Liquor for diluting, moistening, and cooling; which are the chief Ends of Drink pointed out to us by Nature: Besides, nothing will diffolve Salts and carry what is superfluous of them out of Body, so well as pure Water,

Ch. VII. thro' the various Stages of Life. 215 that being the proper Menstruum or Vehicle

for diffolving all Kinds of Salts.

The benign, mild, and other useful Qualities of Water plainly shew, that it was defign'd by the most wife Creator for our common Drink; and, without doubt, was the primitive original Drink: And happy had it been for Mankind that other mix'd and artificial Liquors had never been invented; for Water is so necessary to our Subsistence, that we could not live a Moment without it; because this Element furnishes all the fluid Parts of our Humours, without which they could not circulate; and it dissolves all the Salts in the Blood, whereby some are carried to their proper Places within the Body, and others to proper Emunctories for their Expulsion from it. It serves to prepare our Food, and then for a Vehicle to convey it out of the Stomach into every little Meander of the Body, both for Health and Nourishment: So that Water alone is sufficient and effectual for all the Purposes of human Wants as to Drink.

Therefore it is evident from what has been faid, that Water is the best and most whole-some Drink in general; but in some Constitutions, where something is necessary to warm and act as a Stimulus, then fermented Liquors taken in Moderation are proper, such as Beer, Ale, Cyder, Wine, &c. the Quantity and Choice of which depends upon the Age, Constitution, and Manner of Living of the Drinker; for in Youth, Milk, Water, or

Whey are the properest, and in a middle Age a little more generous Liquors may be sometimes allow'd; but most of all in old Age; for according to the old Saying, Lac senum

est Vinum, Wine is old Men's Milk.

As to Malt Liquors, small Beer well boiled, and of a due Age, is the best for common Drink; otherwise it must be very hurtful to Persons of weak Nerves and slow Digestion; for by fermenting anew in the Bowels it will fill the whole Cavity of the Belly with Fumes and Vapours, which will at last produce very bad Effects in a weak Constitution.

As for strong Beer, it should be made of Water that will bear Soap; be well hopp'd and boil'd, that it may keep till all the gross and viscid Parts fall to the Bottom of the Vessel, without the Help of any pernicious Composition for fining Liquors, too frequently made Use of to the Destruction of thoufands; for it is very notorious, that all your fine Ales, or Home-brew'd, as they are call'd, have neither due Age or Hops enough to clarify of their own Accord, being brew'd one Week and drank the next, or foon after; fo that the Seller is obliged to have Recourse to fome Art or other to fine them down, which is very often with unstack Lime, or at best a Mixture of Ifing-glass \*, and other Ingredients

Is a very strong Glew, made of a Kind of Fish catch'd in great Quantities in Rivers in Hungary and other Parts: It is used by Cabinet-makers, and sometimes ordered as a Medicine to stop Fluxes and Seminal Weaknesses; but it is very improper

very destructive, if not possonous, to many Constitutions: Besides, these Liquors are of so agglutinating and thickening a Nature, as to produce Stone, Gravel, Gout, Bloatedness, and great Thirst, with the Loss of Appetite: And to prove the agglutinating Qualities of all such Liquors, it is experimentally known, that they make excellent Bird-time; and when simmer d for some Time over a slow Fire, make the most sticking and best Plaister for old Strains.

We have likewise convincing Reasons to have the same Opinion of the Yorkshire, Notitingham, and Welch intoxicating Ales; and, in short, all sine Ales brew'd for Sale: For it is certainly true, that all these sine Liquors, far setch'd and dear bought, have always something in their Composition hurtful to our Constitution, more than meer Water, Malt, and Hops; therefore I would advise all those, who have any Regard for their own Health of Lives, to avoid, as much as possible, the Use of all such Liquors, and more especially the valetudinary, sedentary, studious, and contemplative People; and, in fine, all such as have weak Nerves and slow Digestion.

As the frequent Use and Excels of Drams, or distill'd Spirituous Liquors, is a Vice of so

for such as are otherwise in good Health; for the constant Use of it will produce Gravel, Stone, Blosches, and Eruptions on the Skin, by glewing up as it were the Urinary Passages, and likewise stopping insensible Perspiration; and, in short, it will produce the same bad Effects in human Constitutions, as the common Glew used by Joyners and Carpenters.

horrid a Nature in itself, and now become epidemical, not only among Mechanicks and Tradesmen, but among Persons of the brightest Genius, and finest Taste and Accomplishments; and, alas! even among the finest Part of the Creation, I mean the Fair Sex; and those of them too, which is still more associately, and of the strictest Virtue! I say, as the Case is so, it will not be improper to explain the poisonous Qualities and direful Effects of such pernicious Liquors, which destroy Millions, both in Body and Soul.

Let us then consider, that distill'd Spirits are but an Accumulation of fine Salts and light Oil, compacted together into the smallest Bulk; the Salts are so hard and solid as naturally to retain their Heat and Activity the longest, into which Water cannot enter; the Oil + is so inflammable, that it most readily receives Heat and Fire, and by that Means defends the Salts from the Power of Water over them: So that in the continued Distillation of Spirits,

† They are guilty of a gross Error, who imagine that the more oily any distill'd Spirit is, the more wholsome it will prove to the Constitution; for they do not consider that it is a very subtile, sulphurous, chymical, instammable Oil, blended with Portions of very fine Salts, raised by the Force of Fire, and that it is quite different in its Nature and Quality from the benign and pectoral Oil of Olives or Sweet Almonds, or any other express'd Oils produced without Fermentation or Fire. Hence it is evident that Rum, or double-distill'd Spirit of Annise-seeds, and Spirits distill'd from aromatick Plants, are much more difficult to be digested and carried off than Brandy, or Spirit of Juniper; and that for no other Reason, than that they contain too great a Quantity of burning Oil.

Ch. VII. thro' the various Stages of Life. 219 this Action of the Fire is so strong as to reduce the Spirits at last into liquid Flames, which will, of their own accord, evaporate in visible Flames and Fumes.

Besides, it is observable that every Thing that has pass'd the Fire so long a Time as to divide and penetrate its Parts as far as it possibly can, retains ever afterwards a corrosive and burning Quality. This is manifest from the firey and burning Touch and Taste of new-distill'd Spirits; as also from the burning of a Lime-stone, which retains its heating and drying Quality ever after, tho' extinguish'd by Water.

Hence it will manifestly appear, that running into the frequent Use and Habit of Dramdrinking will as certainly kill as Laudanum, or Arsenick, tho' not so soon; for such Liquors contract, harden, and confolidate many Fibres together, abolishing many Vessels, or Canals in the Body, especially where the Fibres are the tenderest, as in the Brain, by which Quality they destroy the Memory and intellectual Faculties, abrade and wear off the villous Coat of the Stomach, and thereby expose its nervous Coat to the Insults of the most firey, corroding, faline, and caustick Particles of the Spirits; by which means the Springiness or Elasticity of the Fibres is so weakened. that the whole Stomach becomes at last soft, flabby, and relax'd. Hence a Loss of Appetite, and an Inability to digest the small Quantity of Food that is taken in; whence arise Cru-

Grudities, Nauseas, Vomitings, Tremors, nervous Convulfions, Consumptions, Droppies; likewise Gout, Stone, Rheumatism, raging Fevers and Pleurifies, which for the most part nothing but Death alone can remove at last.

What a melancholy Scene do we daily behold, in all Parts of this great Capital, of Numbers of miserable Creatures, render'd not only useless to themselves, to their Families, Friends and Relations, but likewife burthenfome to the Publick, and a Scandal to both Chriflianity and the rest of their Fellow-Subjects! And all this great Calamity entirely owing to the Folly of a bewitching Habit of Dram-drinking. And what is still most furprifing, we see even the Moral, and the Senfible, bound in these Chains and Fetters, that nothing lefs than Almighty Grace, or the unrelenting Grave can release them; for they are deaf to Reason, and to their own Experience, and even to the express Words of the Scripture, which fays, That the Drunkard shall not inherit the Kingdom of Heaven.

From this Doctrine it will appear, to the Evidence of a Demonstration, that next to Drams, no Liquor deserves to be figmatized and detested more than Punch; for it is a Composition of such Parts, that not one of them, except the pure Water and Sugar, is wholsome, or friendly to any Constitution, especially to valetudinary, tender, weak, and studious People. The chief Ingredient being either Arrack, Rum, Brandy, or Malt-Spirits, and

Ch. VII. thro' the various Stages of Life. 221 all of them rais'd by Fire, from the fermented Juices of Plants brought from hot Countries, or which have born the Heat of the Sun longest in our own Climate; for it is observable that Vegetables, whose Juices have most Salar Heat in them, their fermented Juices yield

the strongest Spirits in Distillation.

The other principal Part of the Composition being sour Juice of unripe Oranges or Limons. And if we consider, that the Juice of a Crab-Apple, of unripe Goosberries, or Grapes, or even the Juice of Sorrel, would come up at least to their Virtue in extinguishing the Heat of the burning Spirits, if not to their Flavour: And yet every body who is not deprived of his Senses, must know how destructive an Ingredient such Juices would be to the fine Fibres of the Stomach and Bowels.

For it is evidently true, even from Experience, that all fermenting Juices, such as these are in a very great Degree, must be highly injurious to the human Constitution; for meeting with Crudities in the Bowels, they must raise a new Struggle or Fermentation there, and so fill up the whole Cavities of the Body, with acrid Fumes and Vapours, which is extremely prejudicial to the Bowels, especially when the Constitution is tender and weak.

And in the West-Indies, where the People are forced to drink much Punch, by reason of the Violence of the Heat, and for Want of other proper Liquors there, tho' the Limons

222 A GUIDE to HEALTH Part II. and Oranges are in full Perfection, yet the Inhabitants are univerfally afflicted with nerwous and mortal Dry-Gripes, Cramps, Pal-fies, and Convulsions, which kill them in a few Days, and all intirely owing to this

poisonous Mixture, Punch.

Notwithstanding what I have advanced against the deliterious + Qualities of Drams and Punch, at least when taken for any Constancy, or in any great Quantity, for some Poisons are only so by their Quantity, yet I would not be understood here to discourage the innocent Means of enlivening Converfation, promoting Friendship, comforting the Sorrowful, and raising the drooping Spirits, at proper Times with a chearful Glass of fome good wholfome Liquor or other; for the Sober can receive no Prejudice from a moderate Use of Liquors: On the Contrary, it will help to invigorate and re-establish the Constitution, especially after the Fatigues of Labour or Study. Neither am I against the taking a proper cordial Dram sometimes, as in an actual Fit of the Colick or Gout in the Stomach; or upon a full Meal of Fish, Pork, &c. when a Glass of good Wine cannot be had.

But the Frenzy of being given to the too frequent Use and Excess of Liquors, is abominable; for a Sot is the lowest and the most contemptible Character in human Life; and as for the Profligate, the Senfual, and Voluptuous,

Ch. VII. thro' the various Stages of Life. 223 luptuous, they are past reclaiming, and therefore deserve no Advice, at least they will take none. However, I present them here with a short Sketch of the Effects of Drunkenness, to contemplate upon at their Leisure, if they can spare any Time from the bewitching Folly of sotting and drinking.

The Effects then of Drunkenness render the Blood inflamed into a Gout, Stone, and Rheumatism, raging Fevers, Pleurises, Small-

Pox, or Measles.

2. The Passions are enraged into Quarrels, Murder, and Blasphemy; the Juices are dry'd up; and the Solids scorched and shrivelled.

3. A Resolution of the Nerves, Cramps,

and Palfies.

4. Inflation of the Belly and Droppies.

5. Redness and Rheums, with an Inflamma-

tion in the Eves.

6. Tremblings in the Hands and Joynts, Head-Aches, Quinsies, and Scurvies of all Kinds.

7. Sicknesses at the Stomach, with four

Belchings, Reachings and Vomitings.

8. A furious and unmanageable Disposition to Lust, which hurries them to the base and sordid Company of Harlots, and impure Women, by whose Means they most commonly acquire a foul Disease, under which they often labour for the greatest Part of the Remainder of their Lives, in Shame and Tor-

ments;

ments; nay some become incurable, and even rot by Piece-meal, before their Dissolution.

Q. A Decay of Memory and Understanding,

Loss of Credit and Reputation.

10. An Unfitness for Bufiness, or the Dispatch of the Affairs of Life; and a Readiness

of discovering all Secrets.

These, with a great many more, are the bitter Fruits of Drunkenness, even in this Life; and in the next, according to the express Words of hely Writ, will be rewarded with everlasting Miseries, as being thereby excluded the Kingdom of Heaven.

As it would be endless to enter of different into a long Account of the different into a long and search into a long and full only say in general, that all the light Wines, of a moderate Strength, due Age, and full Maturity, are much more wholsome for the Constitution, and preferable for Conversation, Cheerfulness, and Digestion, than the rich, bot, strong and beavy Wines: For the light Wines inflame the Juices of the Body less, and go off the Stomach with less Difficulty; they likewise afford longer Time for Conversation and Cheerfulness, with less Danger.

Red Port Wine is strong and astringent; but white Port and Spanish Wines are stimulating and attenuating. French Wines are lighter, and not so strong as the Portugal and Spanish Wines; which renders them

Ch.VII. thre the various Stages of Life. 225 wholfomer for thin and dry Constitutions. Fine old Rhenish and Moselle Wines are very wholsome, especially the Former, which is exceedingly good for most Constitutions.

Strong made Country Wines are prejudicial to all Constitutions, being very windy, heavy, and heady, taken in any considerable Quantity; therefore it is surprising the extreme Fondness People of the better Sort in England have run into, for such Liquors; and for no other Reason that can be thought of, than the only one the Vulgar give for drinking Brandy or Gin, that they sooner intoxicate them.

The last Thing I have to say concerning Liquors, is, that Wine, and all other strong Liquors, are as hard to diget, and require as much Labour of the concoctive Powers, as solid and strong Food itself; and this is not only evident with respect to Persons of weak Stomachs and Digestion, but also from strong and healthy People, who only drink either Water or Small Beer at their Meals, and shall be able to eat and digest almost double the Quantity of what they could, did they drink strong Liquors. Therefore it appears very plain, that we should always drink very little strong Liquors at our great Meals, otherwise we must certainly impair the Constitution, and load it with various Diseases at last; for such Liquors, by their Heat and Activity, hurry the Food unconcocted into the Habit of the Body, and by that Means lay a Founda226 A GUIDE to HEALTH Part II. tion for Fevers, Colicks, Gout, and several chronical Distempers.



## CHAP. VIII.

Of different Constitutions, and the Diet proper for each.

Lthough I have given an Account of Temperaments or Constitutions in general in the Begining of Part I. Chapter I. of this Treatife; yet it will be necessary to treat of them in a more peculiar Manner in this Place, that every one may easily know the Nature of his own in particular. And as I have explained the Nature and Qualities of Aliments, in the two preceding Chapters, with their good and bad Effects upon human Bodies, it will be likewife necessary to lay down Rules of Diet proper for each Constitution in particular, in this Chapter, by which Means it will not be difficult for any one to observe a sure and easy Method in regard to what may be either useful or prejudicial to his own Constitution in particular, in order to preserve Health and prolong Life; or when impair'd, to restore it again, which are the chief Ends of the noble Art of Physick.

A general Method as to Diet, without regard to particular Constitutions, is absurd.

The

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The most common Difference of human Constitutions proceeds either from the folid + Parts, or from the different State of the Fluids, (as I hinted in the first Part of this Book.) From the former, as to their different Degrees of Strength and Tension; for in some Constitutions they are too last and weak, in others they are too strong and elastick; from the latter, as they consist of Water, Spirit, Oil, Salts, and earthy Parts, they differ according to the Redundance of the Whole, or of any of the said Ingredients in particular; and for which Reason they may be justly called either pletborick, sanguine, phlegmatick, saline, oily or fat, earthy or melancholick Constitutions.

The Fibres of the Solids in a human Body are too weak and lax, when the Cobesion of their Parts is so small, that they may be resolved or broken by a Force not much greater than what happens commonly in the Body of a healthy Person; and when the Weakness of the Vessels or Organs, proceeding from a too small Cobesion of their constituent Parts, renders them unable to discharge the common Functions of Life, consider'd in a State of Health.

And notwithstanding there is a Debility or Weakness of Fibres in Infants, yet it is no P 2 Disease,

<sup>†</sup> The Solids of an animal Body are composed of small Fibres or Threads, which may be divided into still less; and this Division proceeds so far, as that at last they become so incredibly small, as to exceed the Power of Imagination; but Reason tells us that there must be an End at ast.

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Disease, because they lengthen by the Influx of the Liquids, which is the Cause of their Growth; but in grown Persons, when their Fibres cannot any more give way or stretch, they must either break or lose their Spring.

The common Causes of Weakness of the Fibres are, either a Defect or great Loss of the nutritious Juices; for if there is not a Sufficiency of Blood, the Chyle cannot be eafily affimilated to nourish the Fibres. And People who lose great Quantities of Blood daily, by Blood-letting or otherwise, become dropfical; for when a Fibre, which is naturally elastick like a Bow, loses its Spring, it is only paffive, and confequently useless to the Individual. Likewise Nourishment too glutinous or viscid to be subdued by the concoctive Powers of Digestion. Also a sedentary and lazy Life; for Motion or Exercise encreases the Circulation of the Fluids, and of Course an Application of the solid Parts together. People who live healthy in a dry Air, commonly fall into Difeases that depend upon weak and relax'd Fibres when in a moist one. Lastly, a natural Weakness from the Frame and Constitution of the Body, which is too often the Case.

The Sign of weak and lax Fibres are, a weak

Pulse, Paleness, flabby and fost Flesh,

The Signs of Palpitations of the Heart, Bloatedness, Lassitude, and scorbutical Spots;

Coldness of the Skin, sour Belchings upon taking vegetable Food, or foul Eructations, like that of rotten

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Signs of weak Fibres in the Organs of Digeftion; likewise Atrophy, or a Decay of the Flesh, which indicates a Destruction or Obstruction of the Vessels that convey the Nourishment; and Droppies proceed from a Weakness and Laxity of the Fibres, as having lost their Elasticity or Springiness to return the Fluid. And, in short, most of all the chronical Diseases proceed from Weakness and Laxity of the Fibres. Therefore the chief Intention of Cure must be to restore the Tone of the solid Parts; for all other Attempts,

without this, will prove fruitless.

So that they who have weak Fibres ought to forbear all great Evacuations, especially Bleeding, viscid Substances, and all other Food hard of Digestion; they should likewise avoid a sedentary Life and moist Air as much as possible: They should eat often, but in small Quantites, of fuch Things as are nourishing, and of easy Digestion, as Milk, Broth, and Fellies made of Flesh Meat, Rice Gruel, Panadas, &c. And their Drink should be some of the light Wines of due Age and Maturity, mix'd with Water, for Water alone is too relaxing; or any good Wine with acidulated and Steel Waters, fuch as Pyrmont or Spaw, &c. They should likewise use in their Diet austere or acid Vegetables, if their Stomachs can tolerably bear them; fuch as Pears, Plumbs, Quinces, Pomegranates, Barberries, Medlars, Sorrel, Purflain, Burnet, Tama230 A GUIDE to HEALTH Part II. rinds, Limons, Capers, or any other Pickles they like best.

The Fibres are too strong and too elastick, when the Cohesion of their Parts is in such a Degree of Rigidity or Stiffness. In such a Degree of Rigidity or Stiffness as renders them inflexible to the Causes they ought to yield to, so as to preserve the Animal in Health; for too great Elasticity is not only a Quality by which they resist against being lengthen'd, but likewise they restore themselves, by that Means, with too great a Force and Pressure upon the moving Fluids, to the great Detriment of the Ani-

Rigidity of the Vessels or Organs is such a Degree of Cohesion as prevents their being expanded so far as is necessary to carry on the vital Functions \*, as usual in a true State of Health. And the Rigidity of the Fibres must necessarily produce a Rigidity of the Vessels and Organs, because the Fibres make up their constituent Parts.

mal.

The Cause of such a State, besides the natural Frame and Constitution of the Body, is old Age, in which the Fibres are conspicuously rigid and dry; or too long a Course of such Diet as strengthens the Fibres too much; likewise hard Labour or Exercise.

The Signs of fuch a Constitution are, a hard, dry, hairy, scraggy, and

<sup>\*</sup> Vital Functions are the muscular Action of the Heart, the secretory Action of the Brain, that of the Lungs, and of the Blood and Spirits, with their Motions through their proper Organs; and also the Veins, Arteries, and Nerves.

Ch.VHI. thro the various Stages of Life. 231 warm Body, without a Disease, with firm and rigid Muscles, a strong Pulse, Activity and Promptness in the animal Actions \*; and such Constitutions are most subject to inflam-

matory Diseases.

Their Diet should be Things contrary to those already mentioned in the State of too great Laxity of the Fibres; that is, of such Things as are emoltient and cooling, the Pulps, Jellies, Juices, Mucilages, and Decections of Vegetables that are foftening and relaxing; fuch as all Potherbs of the emollient Kinds, Lettuce, Cichory, Spinage, Beets, Carrots, Barley, Rice, Mays, Millet, Peafe, and Beans; animal Oils, fuch as Cream, Butter, Marrow, and all Things which relax or increase Fat, refraining always from Things season'd with Spice, and with as little Salt as possible, for Salt hardens the Fibres: Their animal Food should be boil'd Meat and Broths without Seasoning, preferable to any other Form: Their Drink should be Water, Barley-water, Milk and Water, or Whey; avoiding all fermented Spirits and austere Wines, and Pickles of all Kinds, all which are extremely hurtful to fuch Constitutions. Bathing in warm Water often

Are such, as when perform'd, the Understanding conceives Ideas of Things united to that Action; or the Will is either concerned in exciting such Actions, or moved by them when excited; such are the Touch, Taste, Smell, Sight, Hearing, Perception, Imagination, Memory, Judgment, Reason, Passions of the Mind, and voluntary Motions.

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often is beneficial to fuch, but immoderate

Labour or Exercise very injurious.

How the Fluids act upon the Solids of a human Body, so far as to cause Diversities of Constitutions and Diseases, is accounted for in the following Pages, in treating of different Constitutions.

A plethorick Constitution is such as abounds with too great a Quantity of laudable and good animal The Cause. Juices; the Causes of which are strong Organs of Digestion and Chylisication, a good Stomach, plenty of nourishing Diet, little Exercise, much Sleep, Laziness or want of muscular Motion, a moist Air, and a Suppression of some of the usual Evacuations, especially that of Perspiration. Therefore the Cure proper for this Constitution, is to avoid the Causes of it, just now mentioned, and use a more sparing Diet, greater Exercise, and proper artificial Evacuations, in

order to restore the natural ones; for

This Constitution is subject to a Stoppage of the Circulation, by too great a Weight of Blood upon the Heart; Rupture of the Vessels, Suffocation, and sudden Death. But it is to be observed, that long Abstinence is not proper in the Cure of such a Constitution; for in that Case the most sluid Parts of the Blood sly off, and the grosser remain in the Vessels. Likewise frequent Bleedings, in small Quantities, often increases the Disorder, by augmenting the Force of the Organs of Digestion,

Ch. VIII. thro' the various Stages of Life. 323 gestion, and by that Means promote Fatness.

Persons of such a Constitution should always avoid all oily and too nourishing Substances; therefore Vegetables, being less nourishing than animal Food, are more proper; and, by the same Rule, to seed upon Fish preferable to that of Flesh-meat.

A fanguine Constitution is that Definition, which abounds with a great deal of good Blood; and the common outward Sign

of such a Constitution, is a florid Colour in the Complexion, a Fulness and Blueness of the Veins, and

a particular fair and lively Colour of the Skin, without Paleness. Those of a fanguine Constitution are subject to frequent Bleedings at the Nose and other Parts, and Inflammations of the Lungs, Impostumations, and often to scropbulous or evily Diseases.

The Blood is the most universal Fluid in the animal Body, from which all the rest of the Juices are derived; for the red Part of it differs from the Serum, the Serum from the Lymph, the Lymph from the nervous Juice, and that from the several other Humours that are separated in the Glands.

The red Globules of the Blood are elastick, and one Globule will break into fix small ones, and then turn yellow; those yellow Globules break into others less, and so proceed till they become white and transparent at last; for

the Vessels which admit the smaller Globules to pass, cannot admit the larger without a

Rupture,

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Rupture, or some other Disorder. So that as the Blood circulates thro' the smaller Channels, the Redness will disappear more and more.

A strong and free Motion of the Blood will occasion a Floridness upon the Skin of such Constitutions; for such a strong Motion will force the red Part of the Blood into more capillary Vessels. Besides, another Cause commonly concurring is the greater Transparency of the Vessels, occasioned by the Delicacy and Thinness of their Coats, which is evident from the large Veins of fanguineous Constitutions appearing blue and transparent, by the Colour of the Blood circulating in them.

And if the Vessels are in a State of too great Rigidity, so as to be inflexible, a strong Motion of the Blood will occasion a Rupture of them, with Hamorrhages; especially in the Lungs, where the Blood is more abundant, and the Vessels more delicate: But if the Vessels yield instead of bursting, the Person is subject to the Inconveniences of a faulty Circulation; that is, the Blood forces into the Vessels appointed to carry Serum or Lymph, from whence proceed Inflammations and Obstructions. And as the Delicacy and Thinness of the Vessels run through the whole Body, it must affect the Glands and Lymphaticks, as well as the Blood-veffels; so that fuch Constitutions must be subject to glandulous and evily Tumours, and Ruptures of the Lymphaticks. The

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The Diet of such Constitutions should be cooling and relaxing, with Moderation in the Quantity of all Things. They ought to avoid every Thing that accelerates the Motion of the Blood, as violent Exercise and Watching; likewise they ought to abstain from the Use of all Things that abound with an acrimonious Salt, as Onions, Garlick, Leeks, Mustard, and the hot Herbs used in Seasoning, and all Spices in general; but Vinegar is exceeding useful to such as will use it constantly with their Food, for it will very much abate their florid Colour.

For more particular Directions, as to the Diet proper in this Constitution, I refer the Reader to the Diet prescribed for the Cure of Rigidity and Elasticity of the Fibres, which answers this Intention in every Particular.

A faline Constitution of the Fluids in an animal Body, is either acid, Constitution.

alkaline, or muriatick +.

It has been proved in the foregoing Chapter, that the Juices of a found Animal are neither acid nor alkaline; for all the Solids and Fluids of such, even fed with acescent or acid Substances, yield no Acid; because the vital Force of such Animals converts the acid Substances they take in Food, into soft nutritious animal Liquids of their own Nature. A Cowfed with Daisies, Tresoil, and Sorrel, will give Milk in which there is not the least Acidity; but if the vital Force is weak, it is not sufficient

236 A GUIDE to HEALTH Part II. fufficient to subdue the Acidity of the Food taken in.

Therefore as there is no Acid naturally in a found Animal Body, but what must be taken in by Food; so that if it be not subdued in the Passages of the Chyle, it will get into the Blood; and if there is not a due Quantity of Blood, and a sufficient Strength of Circulation to subdue it, it will infect the Fluids,

so as to produce various Distempers.

The Effects of a Constitution subject to Effetts of an Acidity, are four Belching, a cravacid Consti- ing Appetite, Sourness in the Stomach, with Pains; Green-fickness, the Case of a great many Girls craving after earthy Substances, such as Clay, Chalk, Meal, Cynders, &c. Colick Pains about the Navel, Dry Gripes, fuch as those in the West-Indies, chiefly occasioned by too great Quantities of the Acid of Lime-Juice in their Punch, with a great deal of other Acids in their Sea-The Colicks in Infants proceed fonings. from Acidity, and the Air expanding itself in the fermenting Food in the Stomach; the true Signs of which are a four Smell of the Excrements, acid Sweats, Paleness of the Skin, and oftentimes Convulfions, from Acidity passing into the Blood, and affecting the tender Fibres of the Brain. Eruptions of the Skin, fuch as Scurvy and Itch, and even Leprofies, are produced by feeding much and often upon acid unripe Fruits, and mealy Substances that are acescent. The

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The most subject to this Disorder are Children, by reason of the Weakness of their Fibres and Digestion, and a Milk Diet; likewise such as lead a sedentary Life; and others again, who cat and drink much Bread and Wine, and acid Vegetables; and lastly, Artisicers, who deal much in the Preparations of Acids.

As Acidity is not the natural State of the Fluids in an animal Body, but introduc'd into the Habit by Food; so it is to be cur'd by Aliment of a contrary Quality, for which the Reader is referr'd to the Diet proper for acid Acrimony, in the foregoing Chapter,

Page 212.

All anti-acid Medicines being ineffectual without a proper and continued Diet of the same Nature, here I must observe, that an Abstinence from strong fermented Liquors is absolutely necessary in the Cure of this Disorder; and likewise that Acidity in the Infant may be cur'd by a Flesh-Diet in the Nurse.

An alkaline Constitution of the A Constitution Fluids in a human Body is opposite subject to an to the former, and abounds with alkaline Acrialkaline Salts, the Nature and Quality of which I have explain'd in Note \*, Page 165, which see. And tho no Animal unputrify'd, when burnt, produces any alkaline Salt, yet being putrify'd, it produces a volatile Alkali; so that in a sound Animal no true Alkali is sound, as I have observ'd

The Causes of such a Constitution are commonly a plentiful and constant Use of animal Diet, such as Fish and Flesh, and all Vegetables which abound with an acrimonious Salt, such as Mustard, Onions, Leeks, Spices, and all hot and pungent Anti-scorbuticks, &c. likewise a plentiful Use of Salts in general, for all animal Salts are alkaline; and the Rock and Sea-Salts are of a mix'd Nature, yet they increase the Disorder.

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All Animals that live upon other Animals have their Juices more alkalescent than those that live upon Vegetables, and for this Reason Fishes are thore alkalescent than terrestrial Animals, for they putrify sooner in the open Air; and no Person is able to support a Diet of Flesh and Water without Acids, such as Salt, Vinegar and Bread, without falling into a putrid Fever.

Another Cause of this Distemper is a vigorous Action of the Vessels thro which the Fluids circulate; for which Reason the strong and healthy, and young People, are more in Danger by pestilential Fevers, than the weak and old; for violent animal Motion by Attri-

tion produces this alkaline State.

The Symptoms of fuch a Constitution in any great Degree, are Heat, Diagontich. Thirft, fout Belchings, Foulness of the Tongue and Palate, a bitter and bos Tafte in the Mouth, Sickness, Loathing, bilious Vomitings, Stools with a cadaverous Smell, Pains in the Belly. Besides, such a State dissolves the Blood, and disposes it to Putrefaction, hinders Nutrition, for no Chicken can be hatch'd of a rotten Egg; and likewise the Blood turning Acrimonious, corrodes the Veffels, producing Hamorrhages, Eruptions on the Skin, dark, livid, Lead-colour'd, and of a gangrenous Nature, and likewise a bot Scurvy, and almost all Distempers of the Inflammatory Kind.

The Diet of fuch Persons ought The Rogimen. to be a plentiful Use of acid Substances, such as much Bread, and Seasoning of Vinegar, and all other Acids without Spices, and live much upon Food made of Grain or mealy Substances; in short, they should live on such a Diet as is describ'd for an alkaline Acrimony in the foregoing Chapter.

Plethorick Constitutions are apt to fall into this alkaline State of the Fluids, which is more hurtful than that which proceeds from Acidity; for the Bile being redundant, is the strongest Anti-acid, and when it is raised to a high Degree, and acrimonious, is fufficient to produce all the terrible Symptoms of malignant and pestilential Fevers, as is manifestly evident from the Experiments that were made at Marseilles in Time of the Plague; and nothing subdues the Acrimony of the Bile more than the acid Diet already mention'd, so that by a timely Use and Application of fuch Remedies, many fatal and dangerous Diseases might be prevented.

A muriatick or briny State of A briny State of the Blood. the Fluids, which is common among Sailors, is commonly introduc'd into of the Blood. the Habit of the Body by too great Quantities of Sea-Salt; and its usual Symptoms are a Salt Tafte in the Spittle, Itching, and red Breakings out of the Skin, a lixivial Urine with a fat Substance swimming on the Sur-

face of it.

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The Cure of this Disorder is performed by the constant Use of a Diet of fresh and unsalted Things, watery and cooling Liquors acidulated; mealy and emollient Substances, with a plentiful Use of acid Fruits; Sower Milk, Butter-Milk, avoiding all Spices, and the hot Antiscorbuticks of the pungent Kind: In a Word, the Diet ordered in the Alkaline Acrimony in the foregoing

Chapter is proper in this Cafe.

A phlegmatick Constitution is fuch a State of the Fluids, wherein Phlegm Definition. or a cold, viscous watery Humour predominates; and the Causes of it are, The Causes. mealy Substances unfermented, and taken in great Quantities; for the Flower of all Sorts of Grain, mix'd with Water, make a Paste that sticks like Glue, having an Oil in them which causes a Cohesion of their Parts together; the frequent Use of unripe Fruits; likewise great Loss, or Want of Blood, which preserves itself and the Food, by constant Motion, from Coagulation; a Weakness and Indigestion in the alimentary Passages, by which the Food is rendered flimy and vifcous; a Defect, or Want of Bile, which is the principal Resolvent of the Food; and a Stagnation of the Fluids, from a Weakness of the Instruments of Excretion; for if the Phlegm stagnates, it must grow viscid by the Heat of the Body.

Like

Likewise Tumours and Inflations of the Belly, with Paleness, are Signs of a phlegmatick Constitution; as when a Child grows pale, and his Belly swells, which happens to those that are rickety, there must be certainly tough Phlegm in the Intestines, which shuts up the Mouths of the Lacteals, and prevents the Nourishment from getting into the Blood. But no Cause whatever produces a Viscidity in the human Fluids, more than a sedentary Life, and Laziness, and no Remedy more effectual than good Labour and Exercise.

Cold phlegmatick Constitutions The Cure. ought to use constantly an alkalescent Diet; likewise well fermented Bread. and fermented Liquors; for Fermentation removes the Viscidity of all mealy Substances; and high seasoned Food is proper for them; likewise Spices, Salt, Garlick, Leeks, Onions, Thyme, Rosemary, Savory, Marjoram, Basil, Mustard, and all the hot and pungent Antifcorbuticks; for all these being highly alkalescent, exalt the Bile, which is necessary in this Case, whereby the Viscidity of both the Aliments and Fluids of the Body is diffolved. Their animal Food, both Fish and Flesh, should be nourishing, and easy to be digested; their Drink should be good fermented Liquors, hot mineral Waters, and generous good Wines, such as will put the Blood into a vigorous Motion. But for farther Satisfaction herein, see what is said of alkalescent SubCh. VIII. thro' the various Stages of Life. 243 Substances, both animal and vegetable, in the

foregoing Chapter.

very well known to every one, as fat Control to the Symptoms, that it needs no Description, and falls in with the plethorick and phlegmatick Constitutions already describ'd; it being but one Species or Sort of Corpulency, as there is often Bulk without Fat, from a great Quantity of muscular Flesh, which is the Case of robust People; for an Animal in the Course of hard Labour appears to be very little else than Bones, Vessels and muscular Flesh; but let the same Animal remain long at Rest, with tolerable good Food, it will probably double almost its Weight and Bulk, and this additional Surplus is nothing but Fat or Oil.

The common Causes of this Distance, order, besides a particular Family Disposition of the Body are, first, strong Oragans of the first Digestion, and a Laxity of the Fibres of the circulating Vessels, especially those about the Membrana Carnosa; for by the Action of those Fibres of the Vessels upon the Fluids, if they are duly elastick, the oily Parts of the Chyle are intimately mixed with the Blood; but when this Action is not strong enough, and that the Chyle is

\* The fleshy Membrane, is a fat Sort of a Membrane, in some Parts thick and musculous, in other Parts thin with many Ducks of Fat in it, and covers all the nervous and sleshy Parts of the Body, and is interwoven with an infinite Number of Blood-Vessels.

extremely redundant, then the thicker Oil is never intirely subdued by Circulation, and so turns Fat. 2dly, Great Quantities of oily Nourishment, Milk, Butter, and bily fermented Liquors. 2dly, All Things which produce Coldness in the Skin, so as to stop Perspiration, by which Means the fat or oily Parts are congealed, which Heat dissolves and attenuates; for the Inhabitants of cold and moist Countries are generally fatter than those of warm and dry Climates. But the most common Cause of all is, too great Quantity of Food, and too little Motion or Exercise; that is to fay, Gluttony and Laziness, for which a spare Diet and Labour is the best Remedy.

Fat or Oil in all Animals, in due Proportion, is very necessary for both the Motion and Nourishment of the Fibres; but too great Abundance of it is very prejudicial to the human Conflitution; for it is an Impediment to the Motion of the Joints, rendering them more heavy, by filling the Spaces occupy'd by the Muscles when they contract and swell; it subjects them to all the Distempers depending upon a defective Motion of the Blood; and as the Want of a due Quantity of Motion of the Fluids increases Fat, so the Disease seems

to be the Cause of itself.

It endangers them in all inflammatory Difeases; for a Fever resolves many Things which do not circulate, and among others the Fat, which mixing with the Blood, becomes volatile ch. VIII. thro'the various Stages of Life. 245 tile, and causes an Acrimony much more dangerous than the saline one is for Salts can be dissolved and distred with Water, but Oils cannot: And it is manifest that Fat is dissolved by Fevers, if we consider the great Loss of it which People undergo in such Diseases. But among the many Inconveniencies and other bad Effects of a fat or oily Constitution, there is one Advantage to such as arrive at an advanced Age, that they are not subject to a Stricture and Hardness of Fibres, which is the Effects of old Age.

the most part, the Causes of a fat.

Constitution, such People ought to eat sparingly, sleep little, and use much Exercise; in
which the Cure of such a Disorder chiefly
consists.

Substances which heat moderately, abounding with acrid and pungent Salts, are proper in this Case; such as Horse-Radish, Mustard, Garlick, Leeks, Onions, Spices, and all the aromatick Plants us'd in Seasoning; likewise Saffron, all Seeds that expel Wind, Meats well season'd with Salt, Pepper and Vinegar, are all proper to dissolve Fat, and carry it off by Perspiration; but the only Inconveniency they have, is, that they create Thirst, whereby great Quantities of Liquids are drank, which increase the Disorder, by diluting and relaxing the Solids too much.

They should avoid all oily Nourishment, and use Honey, ripe Garden Fruits of an acid
O 2 Taste,

Tafte, and the aftringent sub-acid Vegetables mentioned in the Cure of a weak and lax State of the Fibres, in the Beginning of this Chapter; for the Fibres of fat People are commonly too lax. Their Drink should likewise be the same as is there mentioned, to which I refer the Reader.

Tea and Coffee are also useful, as they dilute and stimulate moderately; but the frequent Use of oily spirituous Liquors, as Rum, Anniseeds, &c. is extremely hurtful, because they increase Fat; a moist Air is likewise prejudicial to fat People, by relaxing the Fibres and stopping Perspiration both sensible and insensible.

An earthy Atrabilarian, or melaneboly Constitution, is such a State of the Fluids, wherein the spirituous and most stuid Parts of the Blood are dissipated, so as to leave the Salts, Earth, and grosser Qil in too great a Proportion in the Body.

The Signs of such a State, or a Diagnosticks. Tendency thereto, are known by Darkness, or Lividuess of the Complexion, Leanness, Dryness of the Skin, and a quick penetrating Genius, with a slow Pulse and Respiration; Obstructions of the Belly, and a Difficulty of being purged.

The Causes of it are all such as expel or evaporate the most volatile and subtile Parts of the Blood, and fix the rest; As great Applications of the Mind to

fome

Ch. VIII. thro' the various Stages of Life. 247 some Objects or other, such as may produce great Joy or Sadness, both which equally expel and diffipate the Spirits; likewise great Exercise or Labour in hot Weather, with unquenched Thirst; also Food of hard Digestion, such as dry'd and salted Fish or Flesh, unripe Fruits, unfermented mealy Substances, or the immoderate Use of spirituous Liquors.

The Effects of fuch a Constitu- The Effects. tion of the Fluids are, Stagnation, Obstructions, Acrimony, Putrefactions, Viscidity, and an imperfect Secretion of the Gall, a defective Circulation in the Vessels, especially in the lateral Branches appointed for the Separation of the more fluid Parts hence arife viscid and infusficient Secretions in the Glands: Likewise the Motion of the Blood through the mesenterick and \* cellack Arteries being too flow, produce various Diforders in the lower Belly and + bypechondriack Regions; hence Persons are denominated Hypachendriacal. And the Signs of most of these Disorders of the lower Bowels, arising from too sow a Motion of the Blood through the faid Arteries, are, a Sensation of Weight, Anxiety, Repletion, and a bad Digestion, from whence different Sorts of Food acquire such a State in the alimentary Paffages,

Arteries in the lower Belly needless to be described in this Place.

<sup>†</sup> Are the two Regions lying on each Side of the Tip or Extremity of the Breast-Bone or Sternum, and those of the Ribs; which contain in one the Liver, and in the other the Spleen. Hence Disorders of those Viscera, especially of the Spleen, are called hypochondriacal Affections.

Passages, as they affect of their own Nature; that is, acid, if the Diet be of acid Vegetables; and alkaline, if of animal Substances, especially Fat, which remains rancid, so as that the Spittle will slame in the Fire sometimes; and all this Indigestion owing to the Inactivity of the Gall, which likewise occasions a Costiveness of the Belly, and a Difficulty of being purged.

This State of the Fluids will at last affect the tender Vessels of the Brain, by the Viscidity of the Matter impacted in them, and thereby endanger the Imagination; and likewise produce Corruption in the Bowels of the

lower Belly at laft! soon of to nothings

Hence it is evident, that fuch a Disorder is not to be removed by active Remedies \*, no more than Pitch or Dirt sticking to a Skain of Thread is to be taken away by Violence; but the Viscidity should be gently attenuated, diluted, and carried off gradually, by a proper continued Course of Diet, avoiding always all heating Substances, which still evaporate and dissipate the volatile and sluid Parts more; therefore Waters impregnated with some of the pungent Salts, as that of Nitre, Tartar, &c. are found to be of great Effect in this Disorder.

Their

Are such Medicines as produce sudden Alterations in the Body, by their penetrating and stimulating Qualities, acting upon the Fluids or Solids, or upon both, either inwardly taken, or outwardly applied.

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Their Diet should be light, easy of Digestion, moistening, and resolvent The Regiment of the Bile, such as Honey, the Juices of ripe Fruits, emollient Pot-berbs, light Broths of animal Food, Lettuce, Spinage, Cichory, and Dandelion; and their Drink ought to be Water, Barley-water, and Whey. For farther Instructions herein, see the Diet directed for the Rigidity of the Pibres in this Chapter, which is likewise very proper in this Case.

One Thing to be observed is, that the Diet ought to be contrary to the particular Acrimony residing in the Fluids, which might have occasioned the Disorder; for if it proceeds from Acidity, then an animal Diet is altogether proper; if from an alkaline Acrimony, the contrary Method must be used; which may be easily distinguish'd, by observing what has been already said of acid and alkaline Constitutions, to which I refer the Reader.

As there is a continual Distipation or Waste in all animal Bodies, insensibly; so the frequent Repetition of Meat and Drink is necessary, not only for repairing the Fluids and Solids, but likewise for preserving the Fluids from a putrifying alkaline State, which they would acquire by constant Attrition, without being soon and sufficiently diluted with fresh Chyle. Hence it appears, that long Fastings or Abstinence may be the productive Cause of great Distempers, especially in hot and bilious

bilious Constitutions; and very prejudicial to acid Constitutions, occasioned by the uncasy Sensation and Vellication produced in the Stomach.

Therefore the Quantity of Food necessary to preserve our Bodies in a due State of Health and Vigour, ought to be divided into Meals at proper Intervals of the natural Day, that the former Food may be digested before any more be taken in, and at such a Distance from Bed-time that our Digestion may be almost sinished before we sleep; by which Method neither the Organs of Digestion, nor the Bloodvessels will be overloaded, nor the Fluids too long deprived of a fresh Supply of nutritive

Chyle.

Hence the grand Secret of Health confifts in keeping an Aquilibrium to between the Fluids and Solids; for when the Fluids move so equally, that they do not press upon the Solids with a greater Force than they can bear; and, on the other hand, when the Solids result and act upon the Fluids so equally, that there is no uneasy Sensation, the Person is then in good Health; and whatever is in our Food or Actions that destroys this Aquilibrium, either by relaxing or contracting the Solids too much, or by attenuating or rendering the Fluids too viscid or acrimonious, must produce the Effects already mentioned under each of those particular Heads, which see.

From

<sup>+</sup> An exact or due Ballance.

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Nature and Effects of Aliment, as also of the Nature and Difference of Constitutions in particular, with the Diet proper for each, it will be as casy to determine Rules of Diet in the different natural healthy States, as in the morbid or fickly States of human Bodies; therefore I thought it both useful and necessary to lay down here some general easy Rules, for the Benefit of those who value Health and long Life; but with this Caution, that Regard must be always had to the Nature of the Constitution in particular.

I. Infancy requires a thin and copious nourishing Food, such as lengthens their Fibres, without breaking or hardening them, by reason of their Weakness and State of growing; so Milk answers this Intention best. IIV

of the Food, ought to be in Proportion to the Strength of the Solids, Labour, and Exercise of the Body; for such as labour and exercise much, have their solid Parts stronger and more elastick; therefore they require stronger Food, and more in Quantity, than those that are in their declining Age, or those that lead a sedentary or studious Life.

III. Youth being still in the State of Growth, their Diet ought to be emollient and relaxing, plentiful, and without Acrimony.

IV. In the State of Manhood the Diet should be solid, with a sufficient Degree of Viscidity;

Viscidity; and their chief Drink Water, with a Quantity of fermented Liquois lat. Times proportioned to their natural Constitutions:

bling that of Children, often repeated, and little at a Time, emollient and diluting, with a little Wine sometimes; because in old Age the Fibres harden, many Canals or Vessels are abolished, and the Solids grow together from whence arises Dryness, Weakness, Immobility, Debilty of the vital Borce of Digestion, Loss of Teeth, and Depravation of chewing, which terminate in Death at last.

avoided; for a little Food well digested and assimilated, preserves the Body stronger and

more vigorous, than Superfluity, along to not

VII. We should not eat, because the customary Time for it is come, unless our Appetite be so too; for to load the Stomach with
a fresh Supply upon a Semi-digestion of the
former Meal, causes Crudities, and a foul Stomach, which must overload the Blood, and
thereby produce Diseases.

Moderation, than to make one over-large Meal, the one abstains double the usual Time for Compensation; however, if one transgresses at any Meal, let such abstain from the next, or let it be a very slender one.

IX. Variety of Meats, and made Dishes, destroy a Multitude of People; for they prolong Appetite far beyond what Nature requires,

and

Ch. VIII. thra' the various Stages of Life. 253 and by that Means over-charge the Stomach. Besides, different Meats have different Qualities, and some are sooner digested than others; whence arise Crudities, and a depraved Digestion: Therefore we ought to avoid Feasts and Banquettings as much as possible; for it is more difficult to refrain from good and delicate Cheer when present, than from the De-

fire of it when away.

X. A temperate Diet preserves from Diseases; for such are seldom ill, but when they are, they bear it better, and are fooner recovered. 2dly, It lengthens Life, and mitigates the Agonies of Death. 3dly, It arms the Body against external Accidents, fuch as Heat, Cold, Labour; and if afflicted with Wounds, Diflocations, or Bruises, they are much fooner and easier cured. 4thly, It maintains the Senses intire and vigorous, and moderates Peoples Passions and Affections. 5thly, It preserves the Memory, sharpens the Wit and Understanding, and allays the Heat of Lust.

XI. Galen, recommending a temperate Diet, fays, that those of a weak Constitution from their Mother's Womb, may attain to an extreme old Age, by Help of a fober and moderate coarse Diet; and that too without Diminution of Senses or Sickness of Body; and fays farther, that tho' he never had a healthy Constitution of Body from his Birth, yet by using a proper Diet after the 27th Year of his Age, he never fell into any Sickness,

unless now and then into an Ephemera, that is, one Day's Fever, occasioned by Fatigue or Weariness. And it is very well known, that Galen lived to an hundred Years of Age.

XII. In the Winter and Spring we require a greater Quantity of folid Food, and less Drink, than in the Summer and Autumn; because in the cold Season our Stomachs are hottest, and we sleep a great deal more; for as the Cold increases, so our Heat for the most Part recedes to the central Parts of the Body. And the Reason we require less Drink in Winter is, that then our Bodies are moister, like the Seasons; and likewise, that the Cold hinders the watery Vapours to be perspir'd, and so turn into Humours in the Body. But in Summer what is wanting in Meat or folid Food, may be taken in Drink, and moift cooling Nourishment; for then the Body is dry, and the inward Heat is distributed thro' all the Parts thereof, and Perspiration is so considerably increased by the external Heat, that the watery Vapours or Effluvia are exhal'd and carry'd off thro' the Pores.

XIII. The same Rules for eating serve alfo for drinking, the chief Intention of which
is to allay Thirst, to moisten and convey the
Food in the Stomach, and the Nutriment
thereof into the respective Parts of the Body;
to dilute the Blood, and dissolve the superfluous Salts, and carry them off both by Perspiration and Urine. But for farther Satisfaction

Ch.VIII. thro' the various Stages of Life. 255 faction herein, see the Particulars of the Use and Intentions of Drink, in the latter End of

the foregoing Chapter.

Here I must observe, that moist Food, frich as Broths, Pottage, Soop, and boiled Meats, require little Drink, and the folid only a Sufficiency to moisten and convey it into the Stomach, and prevent Obstructions; therefore they who drink much at Meals, especialty strong Liquors, incur a double Inconveniency; for first, by causing the Food to float in the Stomach, which ought to reside in the Bottom, they hinder Digestion, and by moistening the upper Orifice thereof too much, by which means it is kept open, it thereby occasions Vapours and Furnes to ascend and disorder the Head. Secondly, it causes the Aliment to pass too foon out of the Stomach, crude and indigested; whence arise Fluxes in the Bowels, and putrid Crudities of the Blood in the Veins and Arteries.

XIV. It is very prejudicial to eat or drink too much, or fast too long, or do any thing else that is preternatural; for whoever eats or drinks too much, must be fick, or vitiate his

Juices at last.

XV. Growing Persons have a great deal of natural Heat; therefore they require a great deal of Nourishment, otherwise the Body will gradually waste.

XVI. Hippocrates says, that a Person cannot be healthy, and digest his Food well without Labour, and that the Quantity and Quality Quality of Diet must bear a due Proportion to the Labour.

XVII. Young, hot, strong, and labouring People, may feed on Meats that afford a hard and gross Juice, such as Beef, Bacon, powder'd Flesh and Fish, hard Cheese, Rye-Bread, and hard Eggs, &c. which may nourish slowly, and be digested by Degrees; for if they did eat things of light Nourishment, either their Meat would be too soon digested, or else converted into Choler.

XVIII. When a Person is sick or distemper'd, his Meats should be of contrary Qualities to his Disease; for Health itself is but a kind of Temper gotten and preserv'd by a conve-

nient Mixture of Contrarieties.

XIX. Fat Meats are only good for dry Stomachs; for in fanguine and choleric Stomachs they are foon corrupted; and in Phlegmatics they procure Looseness, and hinder Retention.

XX. Such as are of hot Constitutions, should abstain from violent Exercises, use Bathing in tepid Water, feed upon Mays,

Pot-Herbs, and a cooling moist Diet.

XXI. The Quantity of Food that is sufficient, the Stomach can perfectly concoct, and answers to the due Nourishment of the Body; hence it is evident, that we may eat a greater Quantity of some Meats than of others of a more hard Digestion.

XXII. The Difficulty lies in finding out an exact Measure; but eat for Necessity, and not

Ch.VIII. thro' the various Stages of Life. 257 for Pleasure, for Lust knows not where Ne-

ceffity ends.

Meat, it is a Sign he has exceeded the due Meafure; for Meat and Drink ought to refresh the Body, and make it cheerful, and not to dull or oppress it.

XXIV. If we find those ill Symptoms, we are to consider, whether too much Meat or Drink occasions them, or both, then we ought to abate by little and little, till this Inconve-

nience is remov'd.

XXV. Pass not immediately from an irregular Life to a strict and precise one, but by Degrees; for ill Customs come by Degrees, and are to be wore off gradually; for all sudden Alterations in Extremes, either of Repletion, Evacuation, Heat or Cold, are dangerous.

XXVI. Acids taken in too great Quantities, especially such as are austere, as unripe Fruits, produce too great a Constriction of the Fibres, and thicken the Fluids; hence Pains, Rheumatism, and Gout, Paleness,

Itch, and other Eruptions of the Skin.

XXVII. Spices taken in too great Quantities produce Thirst, Dryness, and Heat, quicken the Pulse, and accelerate the Motion of the Blood, and dissipate the Fluids; hence Leanness, Pains in the Stomach, Loathings, and Fevers.

XXVIII. Strong Liquors, especially distilled Spirits, taken in great Quantities, intoxicate, R contract,

258 A GUIDE to HEALTH Part II. contract, harden, dry, and stimulate the Fibres, and coagulate the Fluids; they likewise corrode and destroy the inward Coat of the Stomach and Intestines.

XXIX. A Diet of viscid Food, such as unfermented mealy Substances, Peas, Beans, Lentils, &c. creates Flatulency, and Crudities in the Stomach, Obstructions in the small Vessels of the Guts, and in the Mouths of the Lacteals and Glands: Hence Tumours and Hardness of the Belly, Paleness of the Skin, and Viscidity in the Fluids.

XXX. An oily Nourishment relaxes the Solids, and particularly the Stomach and Intestines; it creates foul Belchings, Loathings, oily and bitter Vomitings; obstructs the capillary Vessels, by hindering the Entrance of the watery and sluid Part, with which it will not mix; it produces Thirst and Inslammations.



## CHAP. IX.

Of Sleeping and Waking.

SLEEP is a Cessation of the external Senses from Action; for, when waking, we walk, talk, move this or that Limb, &c. but in a natural or undisturb'd Sleep, there is

Ch. IX. thro' the various Stages of Life. 259 nothing of all these Actions; that is, when awake we perform feveral Motions by the voluntary Contractions of our Muscles; when afleep, those Muscles are only contracted, whose Action is involuntary, or does it by 2 Habit, without the Intervention of the Reafoning Faculty; fuch are the muscular Actions of the Heart, Breaft, Lungs, and Arteries, &c. fo that at this Time there is a kind of Relaxation of the moving Fibres of the several Members of the Body. And this is one great Defign of Sleep, to recover their former Force to the Parts overstretch'd by Labour or Motion; for when we compose ourselves to Rest, we must put our Body into that Posture which favours most the particularly weary'd Limbs.

In the next Place it is very evident, that in Sleep there is not only a Rest and a Suspension from acting in most of our bodily Organs, but likewise of our Thinking Faculty too: That is, a Cessation from such Thoughts as, when awake, we are exercised about, which we restlect upon, and Will to imploy our Mind

with.

For tho' Dreams are Thoughts, yet they are imperfect and incoherent ones; and are either so faint and languid Representations, as to be consistent with our Sleep, or else, if they be strong and lively, they are the Interruption and Disturbance of it.

From whence it will follow, that the Motion of the arterial Fluid must be more se-

R 2

date,

260 A GUIDE to HEALTH Part II. date, even, and regular, in the Time of fleeping than waking; for befides the various Alterations it receives in this latter State, from the feveral Passions of the Mind, the very Contractions of the Muscles themselves, in the Exercises of the Body, will forward its Course differently and more unequal; whereas in Sleep the Motion of the Heart, Arteries and Veins is stronger, slower, more equal, and full; likewise Respiration is deeper, stronger, flower, and more equal, by which Means the Blood circulates and digefts more commodiously, and Secretion, Perspiration, and the Distribution of Nourishment are more successfully carried on; the Humours circulating quicker through the Blood-veffels and the Parts near the Heart, but flower through the Sides of the Body, and the remote Parts, as well as the Muscles.

Hence it also comes to pass, that the Influx of the nervous Fluid into the Organs of the Body, as also its Reflux towards the Brain, is in Sleep either none, or very inconsiderable; for it is muscular Action and Sensation that required this Fluid to be thus determined this Way or that, which are in this State hardly any: And yet, by the Arrival of Blood at the Brain, this Juice will still be separated there, sit to be derived into its Tubes and Canals; so that by this Means there will be a new Production, or a kind of Accumulation or laying up in Store, of Spirits,

ch. IX. thro' the various Stages of Life. 261
rits, in order to perform our animal Functions.

Thus we may look upon the TheUse and Time of waking as the Time of Benefit of wearing out, or the Destruction of sleep. the animal Fabrick; and the Time of Sleep, as that in which it is repaired and recruited; not only upon account of what has been just mentioned concerning the nervous Fluid, but also with regard to all other Parts of the Body, as well fluid as folid: For Action must necessarily impair the Springs and Organs; and in Motion formething is continually abraded or fil'd off from the contractile Fibres, which cannot otherwise be restored, than by their being at Rest from Tension. Besides, the regular and steady Course of the Blood, as has been observ'd, in Sleep, is by far more fit and proper for Nutrition, or an Apposition of Parts to the Veffels, which an uneven Hurry of Nourishment is more apt to tear off and wash away.

Sleep is occasioned, promoted, and The Causes encreased, by eating and drinking, of Sleep. in removing the Stimulus or painful Sensation of Hunger and Thirst, when the Stomach is empty, or by drinking plentifully, especially of strong Liquors; but some cannot sleep for a long Time when they drink

much, because the Spirits are thereby too much heated and enraged.

It is also encouraged by much or long continued Labour, the Spirits being too much R 3 diffipated

diffipated and exhausted. In like manner, after the taking of Opium, or other sleepy Things, we are disposed to sleep; because they feize the Spirits by their volatile Oleofity; also a quiet Disposition of Mind; a Body free from Motion, and unaffected by external Objects; by Excess of Heat, Cold, or Care; and by all fuch Caufes as hinder the Protruflon or Impulse of the Blood into the glandulous Part of the Brain, or its Passage through its Veffels, and the necessary Separation of Spirits, and the Derivation of them into the Nerves, being the Organs of Sensation, and the Muscles ferving to voluntary Motion; and the Reflux of them towards the Senforium redored, than by their Commune +.

Water, or hot Liquors, with the Blood, or any sharp Thing that vellicates or twinges the Nerves of the Brain; also by violent Paffons of the Mind, or the Brain's being disturbed by any internal or external Cause.

Therefore it appears from what has been faid, that Sleep is fuch a State of the Brain, wherein the Nerves do not receive from it so large or so strong an Instux of Spirits, as is required for the Organs of Sense and voluntary Motions to perform their Actions with Ease and Quickness.

The

<sup>†</sup> The Seat of Common Sense, is in that Part of the Brain, in which the Nerves, from the Organs of all the Senses, are terminated, which is in the Beginning of the Medulla Oblougata, and not in the Glandula Pinealis, as Des Cartes and others would erroneously have it.

of is perhaps the Defect of a subtile Cause of Sleep. Spirit, which requires a long Time to prepare it, and being now spent and exhausted; so that the snest Vessels being emptied and flagg'd, for a Time fall together; or there is too great a Flux of thicker Blood impell'd to the Cortex of the Brain, so that the medullary Part is compress'd, and the Motion of the Spirits hindered; therefore the natural Cause of Sleep is every thing that may

produce these two Particulars. Joyn Stude

Therefore if we consider the Na- The Effett. ture, Necessities, and Advantages of of too much watching. Sleep, already mentioned, we may eafily perceive how too much Watching will deprive the Solids of that due Supply of Spirits to absolutely necessary to enable them to perform their several Functions; and that for want of a good Digestion Perspiration will be very much obstructed, which must render the Body dull and heavier; for, according to Sanctorius, " interrupted and unquiet Sleep " lessens the Quantity usually thrown off by " Perspiration about a third Part:" \* And likewife, "whatfoever hinders Sleep, hinders " also the Perspiration of that digested Matter, "which ought to exhale;" S because interrupted Steep keeps the Fibres in that Degree of Tenfion, which is not suitable to forward the Juices to the Extremities, and let the Matter of Perspiration go off by the Pores of the Skin: R 4

<sup>\*</sup> Aph. 5. Sect. iv. 5 Aph. 8. Sect. iv.

For whatfoever hinders that easy Relaxation necessary for sound Sleep, must likewise hinder Perspiration; so that full, heavy, and luxurious late Suppers must hinder it; because such a Load in the Stomach will keep the Fibres upon the stretch, and consequently our Sleep will be uneasy and inter-

rupted, until that be removed.

It is therefore very certain, that according as our alimentary Organs are easy, quiet, and not overloaden with Food, our Sleep is found, sweet, and refreshing; for if any Person not labouring under a Disease, is restless in his Sleep, it must arise from his Stomach's being overcharg'd with indigested Food, or Crudities not carry'd off by proper Exercise; or his Intestines are filled with Wind, Choler, or superfluous Chyle: and the restless Nights which are generally ascrib'd to Vapours, are entirely owing to the faid Causes. Therefore all those that would preserve their Health, and lengthen out their Days, ought to avoid large and late Meat-Suppers; especially the fedentary, studious, and such as have little or no Labour or Exercise, should eat very light or no Supper; if any, it ought to confift of some vegetable Food; neither ought they to go foon to Bed after any Supper whatever. And fuch People in general should give Attention to this Aphorism of the Schola Salernitana,

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Somnus ut fit levis, fit tibi coena brevis:
Viz.

That your Sleep may be sweet, let your Supper be light.

Immoderate Watching and want of Sleep, produces Diseases of the Head, corrupts the Temperature of the Brain, causes sometimes Madness, inflames the Humours, generates and excites a saline Acrimony in the Blood and Juices; hence arise cutaneous Eruptions of different sorts; likewise the want of moderate Sleep occasions bad Digestion, fills the Stomach with Crudities, and dissipates the Spirits, by which means a thorough Waste and Decay of both the Solids and Fluids succeed at last.

"sleep well and do not dream, perspire well; and on the contrary, they who dream much perspire less." Because dreaming is a State between sleeping and waking, wherein, altho' the Mind does not exercise such a Power over the Body, as to direct its Motions in the same Degree as when awake, yet by its Attention to those confused Ideas which pass thro' it, the Solids are kept in some Degree of Contraction, greater than is agreeable with sound Sleep; and therefore Perspiration, which depends upon a settled Relaxation, cannot be perform'd so well at such times, as when in quiet and prosound

<sup>\*</sup> Aph. 27. Sect. IV,

Sleep, neither have they that Refreshment, Lightness and Agility, which spreads all over the Body, and principally the Brain, as those who sleep quietly without dreaming.

Long and superfluous Sleep is The Effects of Long and superficious steep is too much Sleep. very pernicious to both the Mind and the Body; for it chills the Body, weakens the natural Heat, breeds phlegmatic Humours, and fills it with Crudities; whence arise much Sloth and Laziness, the Parent of many Diseases; it likewife fixes the Spirits, and renders them fluggifh and stupid; it dulls the Understanding, hardens the Excrements, and makes the Body costive, which is frequently the Cause of various Distempers. In short, superfluous Sleep is neither good for the Body nor the Mind, nor for Business; for he who sleeps too much is but half a Man, Sleep rendering him in all Points like a dead Man, except his Digestion and the Pulfation of his Arteries; for he neither fees, hears, speaks, or understands, and is absolutely deprived of all Reason, which for the Time is a perfect Death. Besides, too much Sleep occasions in both found and firm Bodies a Shortness of Breath, and is a constant Forerunner and Disposition to an Apoplexy, Lethargy, Palfey, and Numbrefs, by hindering the seasonable Evacuations of the Excrements, caufing them to remain too long in the Body.

Sanctorius is very clear on this Head, and fays, \* in one of his Aphorisms, " By too " much

Aph. 50. Sect. IV.

Ch. IX. thro' the various Stages of Life. 267 " much Sleep both the inward and outward " Parts grow cold, the Humours are obstru-" cted and render'd unperspirable, and the " whole Body heavier." So that by the very fame means by which moderate Sleep is serviceable and necessary, too much of it proves injurious; because too much Relaxation overcharges the Nerves with too thick and too great a Quantity of Juices, which instead of rendering them fitter for Motion, clogs them, and makes them less capable of recovering their Springs afterward; so that when once the Solids fail, the Fluids of course slacken in their Motions, by which means the natural Heat decays, and the Flesh grows cold, and they themselves become also more fizy or gluey; for which Reason they suffer less to pass off thro' the Pores by insensible Perspiration, or otherwise, and consequently the Body is render'd heavier.

Sleep in the Day time, or after Dinner, is not to be allow'd, unless a Person has accustom'd himself to it, or has not rested well the Night before, or if he perceives a kind of Lasstude or Weariness in his Limbs; in such Cases, I say, one may sleep an Hour, or half an Hour after Dinner, and even it is beneficial to those of weak Stomachs and slow Digestion; for according to Sanctorius,

" An Hour's Sleep at Noon after a Meal, " sometimes occasions the Body insensibly to

" perspire a Pound, and sometimes half a " Pound:

<sup>\*</sup> Aph. 37. Sect. IV.

"Pound: a Pound when any of the per"spirable Matter of the former Day has
"been retain'd; when not, but half a Pound."
This is recommended as a most excellent Remedy in weak People for imperfect Digestion, and there is a great deal of Reason why it should be of Service; because such an additional Help every Day, may compensate for the Desiciencies of the last Night's Perspiration; but they must not be too free with this Practice, who are inclin'd to grow fat or phlegmatick. For according to the same Author \*, "Immoderate Sleep after Dinner in"jures all the Bowels, and obstructs Perspi"ration."

So that altho' a little Sleep at such Times, and in the Cases above-mention'd, upon a full Stomach may be of Service, by perspiring what did not sufficiently pass off the Night before; yet if it be continued too long, there will such a Quantity of indigested Matter follow, as will be too gross to pass, and consequently stop up the excretory Ducts of the Body, and thereby occasion very considerable Disorders.

The ordinary Time allow'd for Sleep is seven Hours; for that Time seems sufficient for perfecting Digestion, and recruiting the Spirits; but some require more Sleep, and some less: So Children, antient People, Cholerick and dry Constitutions require more, because it moistens and restores the Spirits; but fat

<sup>\*</sup> Aph. 66. Sect. IV.

Ch. IX. thro the various Stages of Life. 269 fat and phlegmatick Constitutions of all People should sleep the least, for Reasons already given.

As nothing feems more directly pointed out to us by Nature, than the Day for Exercise and Labour, and the Night for Rest; so the fittest Time for Sleeping + is about four Hours after Supper, for then the Stomach is not loaded with Food, the first Concoction being then perfected, and by this Time the Chyle has got into the Blood; so that such a quiet and relaxed State as Sleep produces, is most necessary to both Nutrition and Perspiration: and the fittest Time for that Purpose is in the Night; because the Damps, Vapours, and Exhalations, which are rarefy'd by the Heat of the Sun in the Day-time, are now condensed, and fall down upon the Surface of the Earth again, which must obfruct the Pores of the Body, and consequently hinder Perspiration, if exposed to such Damps by Night-watchings, or unseasonable Sittings-up; and this is one of the principal Causes of various Diseases, both acute and chronical, which foon break and shatter the Constitution, shorten Life, and beget a decrepid Age; so that Watching by Night, and fleeping by Day, is of the most pernicious Consequence to Health and long Life, and plainly contrary to the Indications or Dictates of Nature, and the Constitutions of our Body.

Therefore

<sup>+</sup> This is conformable to Aph. 28. Sect. IV. of Sanctorius.

Therefore all those who value Health and long Life, ought carefully to avoid Night Damps and Dews, and unseasonable Watching or Sitting-up, but go to Bed by eight, nine, or ten, and rise betimes in the Morning, that is, by five or six; for according to the old Proverb, Surgere diluculo saluberrimum est; that is, To rise betimes is most conducive to Health.

The following Rules ought to be carefully observ'd in regard to the Position or Posture of our lying in Bed. In the first Place, we should never lie too close or too warm, which may obstruct the Fumes and Vapours necessary to be exhal'd from the Body; and we should always lie with our Heads a little raised, to prevent the Food from rising from the Bottom of the Stomach, to its upper Orifice.

Secondly, We should never sleep upon our Back; because thereby we prevent the usual Excrements of the Brain, which are discharg'd by the Nose and Mouth, from falling upon the Windpipe and Back-bone; but if we sleep upon our Back, we over-heat the Reins, by being pressed between the Intestines and the Bed, and thereby oftentimes produce Stone and Gravel, and send many Fumes and Vapours to the Head.

Thirdly, It is necessary to take our first Sleep upon our right Side, to prevent the Liver's pressing the Stomach, then replenish'd with the Food we took in at Supper, which

Ch. IX. thro' the various Stages of Life. 275 must happen if we lie on the left Side. Befides, by fleeping first on the right Side, what is concocted of the Food descends gradually and eafily out of the lower Orifice of the Stomach into the Intestines, and then the Liver comes underneath it, and is instead of a Chafing-Dish to it, which promotes Digestion very much. After this, we should turn to the left, that thereby the Steams and Vapours retain'd on the right Side may exhale. And lastly, when we go to Rest, we ought not to stretch our Joints, but rather bend them a little; for as \* Galen observes. The Ease of the Muscles consists in a moderate Contraction.

## CHONOCEDINGSDEEDS

## CHAP. X.

Of Motion and Rest.

BY Motion, I mean here Exercise and Labour, as Walking, Riding, Running, playing at Ball, &c. They encrease natural Heat, and consume the Crudities of the Body; for it is very certain, that all Sorts of Aliment tho' never so pure, have yet always something in them unlike our Nature, which can never be affimilated to either our Juices or Substance; so that some Excrement must

<sup>#</sup> Galenus, lib. 1. de motu Musculari.

always then remain in every Concoction. which being retained in the Body, may produce a Multitude of various Diseases: But the groffest Excrements are discharged by a fensible Evacuation, and the most subtile are infenfibly diffipated and refolved by Exercife or Labour.

This made the divine Hippocrates very justly say, in his Book of Diet, that "One " cannot preserve Health, except he joins " Exercise with his Diet; for the one repairs " what is loft, and the other diffipates what " is superfluous." Hence moderate and regular Exercise prevents Repletion, which is often the Parent of many Diseases; by encreafing the natural Heat, it keeps all the Canals of the Body open, and free from Obstructions; it renders the Body supple; prepares and disposes all the Superfluities for both Secretion and Excretion, as well in general as in particular; it likewise fortifies the Nerves, and strengthens all the Joints; which is confirm'd by the great Hippocrates, in his Epidemicks, faying that, " As Sleep is proper for " the Bowels, fo is Exercise for strengthen-" ing the Joints." Celfus also tells us, that " Idleness makes the Body dull and heavy, " but Labour strengthens and renders it firm " and active; Laziness makes us soon grow " old, but Exercise preserves Youth a long " Time +."

Ch. X. thro' the various Stages of Life. 273

To prove the Necessity of Motion or Exercise, for the Preservation of Health and long Life, it will be necessary to observe, that a human Body, as it comes under the Consideration of a Physician, is merely a Machine. Considering it therefore in this Manner, it is divided into Solids and Fluids; the Solids are vascular, and have continually propell'd thro them some Liquor or other necessary for the Purposes and Support of the Machine: And these circulating Fluids are of different Kinds, arising from the different Agitations and Velocities impress'd upon them by the Vessels which circulate them.

But in this View they have a necessary Dependence upon each other; for as the Diftenfion and Power of Restitution in the Vessels, is owing to their being duly moisten'd by some convenient Fluid, separated and dispensed to them from the Blood, which is the common Promptuary of all the animal Juices; fo likewise that due Constitution of the Blood, which fits it for yielding some of its Parts for that Use, depends upon its certain Degrees of Fluidity, which are always as the Contraction of its circulating Vessels: But yet even in this the Solids have the principal Share; because, as that Power by which the Blood is preserv'd in a due Crasis or Constitution is derived from itself, that is, of bestowing upon the Solids a Juice necessary for the Preservation of their Springs, yet that Constitution enabling it to afford such a Power, being primarily

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marily derived from the Actions of the Solid
upon it, the chief Spring or Rife of Motion
is in the Solids.

To know therefore the most ready Ways of altering the Constitution of the Fluids, is to find out the most convenient and effectual Means of influencing the Contractions of their Vessels; but this cannot be done, without knowing first upon what Texture and Mechanism of Parts their Powers of Contraction

and Distension depend.

And in order to come to any Certainty of this Matter, we are to consider, that it is very well known, that any Membrane or Veffel may be separated or divided into very small Fibres and Threads, when just taken out of the Body, and that these Threads may be drawn out a confiderable Length beyond what is natural to them without breaking, and that when fuch external Force which fo distended them is removed, they will again, by their Elasticity, restore themselves to their former Dimensions. And it is farther likewife known, that these Properties of Distenfion and Contraction are preserved in them by a convenient Moisture, because, if one of these Threads be dried, it will immediately lose it, so that upon the Application of any Force to fretch it, it will break; as also its being foak'd too much in Liquor will render it flaccid; as likewise destroy its Elasticity or Power of Restitution when distended.

Ch. X. thro' the various Stages of Life. 275

But what is exactly the constituent Texture, or what are perfectly the Shapes and Arrangement of those Parts which compose an animal Fibre, is scarce possible to be justly determined; because they are too fine to be perceived by the naked Eye, or even by the Help of the best Microscopes, when very minutely divided; which Division proceeds so far at last, that the component Fibrilla become so incredibly small, as to exceed the Power of Imagination; but Reason convinces us that there must be an End.

However, as to the present Enquiry concerning the Effects of Motion or Exercise on the Solids and Fluids of a human Body, it will be fufficient, with what has been already faid, that it is known to a Demonstration, that all the Fibres in a living Body are in a State of Distension; that is, they are drawn out into a greater Length than they would be in, if separated from any Part, and taken out of the Body; which is eafily demonstrated, by cutting transverse, or dividing of a Nerve or Artery, which are intirely a Composition of the Threads we are now speaking of; for immediately we see the divided Parts run up and leave a great Distance between them, as in Wounds, and the Fluids contained in them upon fuch Contraction, to be'so squeez'd out; and this also makes it appear, that their natural Distension is owing to some Fluid being propell'd into the Vessels which they compose, with a greater Force S +2 than

than their Endeavours of Restitution, so far as to obtain a close Contact of all their transverse Surfaces, but yet lesser than that which is necessary to distend them, so far as to bring them to Coincidence, for in such a Case the Vessels would break.

In the next Place then, this State of Distension of the Fibres must necessarily leave some little Vacuities or Interstices between all their transverse Surfaces, which Vacuities will continue as long as the longitudinal Surfaces of their component Parts continue fo close to one another, as to prevent the Entrance of any foreign Matter between, how fubtile soever; for the same Reason as when the Embolus of a Syringe is drawn, and the Pipe is stopp'd, there must needs be a continual nisus restituendi, or an Endeavour of Contraction. There is also a farther Necessity of being supported in such a State of Distenfion; because, if they were closely in Contact with each other in all Parts, they could not be put into, and continue in those undulatory Motions, which they are always in, in a living Body, without being very much alter'd both in their Figures and Contextures.

But it being manifest that all the animal Fibres are continued by the perpetual successive Impulse of the Fluids, in such undulatory Motions; besides this Necessity of their being distended, they also must be continually moisten'd with some convenient Fluid, otherwise their continual Attritions against one another

would

Ch. X. thro' the various Stages of Life. 277 would foon wear out, and render it difficult to move them.

The Fluid likewise suited for this Purpose must be very fine and subtile, because otherwife it cannot be infinuated into all the Interstices of the Fibres, without separating their Parts fo far as is inconsistent with the Contexture and Mechanism of a Fibre, already described; and the Parts also of this Fluid must not only be very subtile, but likewife foft and yielding, whereby the Motions of the Particles against one another may be maintained the better; and also as by a Cement, that they may be prevented in their receding from each other in their longitudinal Surfaces, so far as to admit of no foreign Matter to infinuate itself between their transverse Surfaces, in such Quantities as to hinder their Re-union when Occasion may require

From what has been said it will appear, that the most natural Consequence of Motion, will be the breaking still smaller and smaller the component Particles of that Fluid, which is dispensed to the Fibres to lubricate and facilitate their Motions; which Comminution will be continued till it is rendered so fine, as to sly off at last at the Surface of the Body, being of no farther Use to Nature, whenever it happens to get there, and by that Means must be there continually made a Waste of, and that merely by such an Attrition of the Parts, as necessarily arises from their due Dis-

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Discharge of the vital Functions; and that Matter, which thus insensibly slies off, is the true Matter of insensible Perspiration, the Exhalation of which is absolutely necessary for the Preservation of Health and long Life.

But this Waste makes it necessary that there be a continual Supply of what is lost; and this is made from what is taken in by the Stomach, which, after divers Digestions and Alterations, at last is mixed with the Blood, and there fitted for some of the finest Parts to pass through the Glands constituted for that Purpose in the Brain, which from thence are dispensed through the whole nervous System, in such a Manner, as constantly to keep up a due Supply of this animal Fluid.

Yet there is another Way by which the Fibres receive fresh Supplies, and that a much nearer; for, according to their natural Constructures, it is very likely that even in the Stomach, and throughout the whole Passage of the Food into the Blood, the most subtile Parts of what is taken in, which are soon separated from the rest, and ready sitted for this Use, may, when they chance to strike against any of the Interstices of a Fibre, be laid hold on, and by Degrees convey'd into the Substance of the Thread; for it is certain the most substance of the Thread; for it is certain the most substance of the Blood by the absorbent Vessels

Ch. X. thro the various Stages of Life. 279 fels \* of the Intestines, as I have observed in another Place, which discharge themselves into the Mesaraick Veins +, and from thence are convey'd directly into the Liver and Spleen.

Besides, this is farther supported by common Experience, by which it is evident, that the Solids are invigorated with fresh Recruits of Spirits, immediately upon taking into the Stomach fuch Meats and Drinks as are spirituous, and contain in their Composition plenty of Particles very fine and active, and eafily to be divided from the rest: And thus every one, upon eating a good Meal, or upon drinking of any spirituous Liquor, especially if it be after long fasting, or a large Expence by hard Labour or Exercise, finds himself immediately, as foon as it is in his Stomach, raifed with new Spirit and Vigour; which could by no Means happen, were the Solids to obtain these Recruits altogether from the Chyle's paffing through the Latteals to the Thoracick Dutt, and

\* Are Vessels which suck in.

They are Branches of the Vena Portæ, interspersed in great Numbers in and upon the Laminæ of the Mesentery, which is a membranous Part in the lower Belly, to which the Guts are connected, and they carry the Blood back to the Liver: Their Largeness and Number demonstrate what is said above; for they are numerous and vastly larger than their correspondent Arteries; besides, wherever there are Emissaries, which are little Vessels which throw out a Liquid, there are likewise absorbent Vessels; for Example, in the Skin, by the absorbent Vessels of which Mercury will pass into the Blood. Moreover Birds, which have strong and large Breasts, small Bellies, and their Ribs upon their Backs, have no Lasteals nor Thoracick Dust, and their Aliment passes immediately into the Mesaraick Veins, by which Means they receive their Nourishment intirely.

and thence into the Blood; because it is impossible that what a Person finds himself so soon recruited by, should in so short a Time have gone through the usual Digestions and Circulations, which require some Hours for that Purpose, according to Sanctorius, and a great many Authors of undoubted Authority.

Upon a View of what has been faid, with what ease may be explained, how the Body, by moderate Exercise, is rendered lighter upon a twofold Account! Because, in the first Place, there is occasion'd by it a Substraction of its absolute Weight, as it affists Digestion, and by breaking the Matter to be perspired finer; secondly, it promotes the Discharge of that Matter through the Pores; and because by the Vibration of the Solids, at the same Time, there is a larger Quantity of fresh Spirits taken up by them from the circulating Blood, both by the Secretion made of them in the Brain, and in the Manner they are convey'd by the absorbent Vessels just now explained, whereby the Fibres become more invigorated, and fo much the more able to carry on a due Discharge of all the vital Functions, infomuch that the Body will not have the Sense or Perception of fo much absolute Weight as before.

Moreover, the Muscles and Ligaments are cleared of their Excrements by Exercise; that is, whatever superfluous Particles of the digested perspirable Matter may adhere to them, is by Motion dislodg'd and shook off:

Ch. X. thro' the various Stages of Life. 281 And the Spirits are rendered finer; that is, such Parts of the nervous Fluid as are just received by the Fibres, are by the Actions of their component Threads broke smaller, and rendered fitter for the Purposes of the whole Body.

Upon this View likewise it will be easy to account for some Disorders this Fluid is likely to fall into, or how it is most liable to be distemper'd; which is very plain, that it must be either by becoming too gross and sizy, or

too fine or exhalable.

The first may be occasioned by a want of fufficient Agitation or Motion in the Solids, whereby its Parts attract each other, and form viscid Cobesions, in the same Manner as it happens in the Blood in the same Case, which renders the Motions of the constituent Threads of the Fibres very difficult and troublesome, and sometimes so obstructs or blocks up those little Vacuities or Interstices between their transverse Surfaces, which are necessary for the Support of their Elasticity, as to prevent, in a great Measure at least, their Power of Restitution when they are distended; as happens in a Leucophlegmatia, Anafarca, and fuch like Disorders, where the Springs of the Fibres are so much destroy'd, that by any small Pressure upon a Muscle, the Impression will sometimes remain a long Time before their constituent Threads can recover their natural Dimensions; or, as it is commonly express'd, the Part will pit.

The.

The other Disorder of this Fluid, oppofite to the former, is, its being broke too fine;
which will render it so exhalable as to fly
off in greater Quantities than the concoctive
Power in the Stomach is able to recruit or
supply; and this is often brought about by
too violent Exercise, too large Evacuations,
or drinking too great Plenty of spirituous and
hot Liquors, whereby the Constitution of the
Blood is so far weaken'd, as not to give due
Resistance to the Contractions of the Vessels
which circulate the Juices, whereupon they
vibrate quicker, and break the nervous Juice
too fine; which brings on a Hectick, and
Death, if not timely remedied.

As to the first of these Disorders, it is evident that it is to be remedied by giving brisker Motions to the Solids, and encreasing the Vibrations of the contractile Vessels, in which how far Exercise may be useful, is evident from what has been said already; for every Thing which acts as a Stimulus comes under this Head; and their Essicacy is chiefly to be determined by their greater or lesser Power of stimulating, shaking, and contracting the Fibres, which Exercise rightly pursued produces more efficaciously, and with less Danger, than

any other Method whatsoever.

For by such Means the component Threads of the Fibres are so put in Motion, as to loosen such Parts of the animal Oil, as are obstructed in their Interstices, and by Degrees break them small enough for Expulsion; and a fresh

Ch. X. thro' the various Stages of Life. 283 a fresh Stock of such Spirits will be supply'd, as will restore them to their natural Springs.

As to the latter Disorder, it is to be removed by a Diet that agglutinates, and gives a greater or stronger Consistence to all the Fluids, and by all such Means as check the inordinate Motions of the Solids. So that upon the Whole it is evident, that to keep from either of these Extremes, Care is to be taken to maintain a just Ballance between the elastick Force of the Solids and the Refistances of the circulating Fluids, in which true Health confists; because, if the Equilibrium is lost on either Side, the Body cannot but fall into some Distemper; and in this consists the whole Art and Business of a rational Practice, to know when to add to, or fubstract from, the Refistances of the Fluids, and when to check or four the Motions of the Solids; as also to be well acquainted with the various Methods by which all these Intentions may be brought about.

And here I cannot omit just taking Notice, how wonderfully the Effects of Musick in some extraordinary Cases are hereby accounted for; and tho' Musick, strictly speaking, may not be deem'd Exercise, unless it be so to those who exercise it themselves; yet it will manifestly appear otherwise, if we consider, that according to the Nature and Contexture of an animal Fibre or Thread, it is very plain that the least Stroke imaginable upon it, must move its component Fibrillæ in all their

284 A GUIDE to HEALTH Part II. their Parts: therefore every Wave or Undulation of the Air, which is made by a mufical Instrument, gives the Fibres of the whole Body more or less correspondent Concussions, according to their Degrees of Tenfion, whereby all the component Fibrilla are fuccessively moved from one to another throughout the whole Thread; and consequently the Spirits are not only raised and made finer, but likewife the other animal Fluids are also more briskly agitated, and their preternatural Cobesions and Viscidities destroyed: All which plainly prove, that Musick is not only good Exercise for the Mind, but likewise very useful for the Body, by the agreeable Concusfions and Thrillings we fenfibly perceive from it in all the fleshy Fibres of the Body.

Hence Musick has this Advantage above any other Exercise, that those Concussions made upon the Fibres thereby are short, quick, and easy, whereupon the nervous Fluid is not only more briskly agitated, but also the natural Contexture of all the animal Threads are better preserved, being never overstrained hereby, as they frequently are with other Exercises: Therefore upon this View the extraordinary Effects of Musick in several Diseases, as that of the Bite of a Tarantula\*, &c. ceases to be a Wonder, and

<sup>\*</sup> Among all the wonderful Effects ascrib'd to the Power of Musick, none is more surprising and important than that of curing the venomous Bite of the Italian Spider, called the Tarantula. The Part bitten is soon affected with a very acute Pain,

ch. X. thro' the various Stages of Life. 285 it rather comes to be admired that it is not much more brought into Use here for the Benefit of valetudinary and weakly Constitutions, as it is in Italy and other Countries, and that even by the Direction of their Physicians.

What has been said farther explains that common Effect of Exercise, in its giving always, conformable to Hippocrates's Opinion, a greater Firmness and Strength to the Solids; for the more a Fibre is kept in Action, the clearer it will keep its component Parts from the Lodgement and Adhesion of any foreign and superfluous Matter upon them, by which Means whenever it is distended or stretch'd, there will be the more Room for each Particle to draw up again, and consequently its Return will be with greater Force; but the Exercise which produces this Effect, is such only as does not exceed the Powers of the

Pain, and a few Hours after with Numbness; upon which ensues a profound Sadness, and a Difficulty of Respiration; the Pulse grows weak, the Sight is disturbed, and the Person loses Knowledge, Sense, and Motion. The Doctor is in vain confulted; the Musician here alone performs the Cure; he tries a Variety of Airs, and when he happens to hit on that Harmony that accords with the Patient, he begins to move by Degrees, and keeps Time with his Fingers, Arms, Legs, and Body; then he raises himself up and dances, increasing in Strength and Activity. This dancing Fit continues fix Hours, or a Day, or sometimes two Days. When the Musick ceases, the Person gives over dancing, and is put to Bed. And this Process is repeated till the Patient is recovered, which is by little and little; and every fick Person has a particular Tune or Air, and always a very brisk or sprightly one. See Derham's Physico-Theology, Book IV. Chap. iii. and Malcolm's Musick, Chap. xiv. Sect. 3. &c.

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Constitution; for too much Exercise destroys the Solids, by consuming the Fluids too much.

But on the contrary, by too much Rest and Inactivity every Part will lose its Strength, and the less it is mov'd, be still render'd less able for Motion. And upon this Account it is that we see daily such a very great Disserence between active and stirring Persons, and such whose Circumstances of Life inures them to Labour and Exercise, and those whose Inclinations and Condition indulge them in Ease and Inactivity; for the former are strong, hardy, and healthful, but the latter tender, weakly, and diseas'd.

From the Doctrine of this Chapter, it is manifest to a Demonstration, that there is an absolute Necessity for Labour and Exercife, to preserve the Body any time in a due State to maintain Health, and prolong Life: For let whatever Diet be pursued, though never so well adjusted both in Quantity and Quality, and let whatever Evacuations be used to lessen the Disorder, or any Succedaneum or Equivalent be proposed to prevent the ill Effects; yet our Bodies are so made, and the animal Oeconomy so contriv'd, that without due Labour or Exercise the Juices will thicken, the Joints will stiffen, the Nerves will relax, and on these Disorders, chronical Distempers and a shatter'd old Age must soon ensue.

Ch. X. thro the various Stages of Life. 287

And the light Food may in a great meafure prevent the thickening of the Fluids, vet it cannot do it sufficiently without Exercise; nor can it at all keep the Fibres in due Tension, for to that Purpose Exercise is abfolutely necessary: Even the joint Power of warm Air and light Food, cannot supply the Place of Exercise in keeping them pliant and moveable, and preferving them from growing hard and stiff. But we should always avoid too much Labour or Exercise, as I have just now observ'd; for Sanctorius tells us, " That by too much Exercise the Fibres " become hard, whence old Age proceeds, " which is an universal Hardness and Stiff-" ness of the Fibres \*."

There are general and particular Exercises; the former, which move and stir the whole Body, are Walking, Dancing, Fencing, Running, Leaping, Bowling, Tennis, Pumping, Riding a Horseback, or in a Coach, &c. of all which Walking is the most natural, and would be also the most useful, if it did not exhaust the Spirits of weakly Constitutions too much; but Riding is certainly the most manly, the most healthy, and the least laborious and expensive of the Spirits of any, shaking the whole Body, and thereby promoting an universal Perspiration and Secretion of all the Fluids; to which may be added the various Changes of the Air throwhich they so quickly pass, the Alterations

<sup>\*</sup> Aph. 35. Sect. V.

of which become as it were a new Bath, and by that means variously stimulating the Fibres to brace and contract them; besides the different Objects or new Scenes, which at the same Time amuse the Mind.

The immortal Sydenham laid so great a Stress on Riding, that he thought he could not only cure slight Consumptions, but an almost desperate Tabes, attended with nocturnal Sweats, and a violent Diarrhaa, by Riding alone; nor did he believe Mercury more effectual in the Cure of the Venereal Disease, or the Bark in intermittent Fevers, than Riding was in a Consumption.

Those who eannot ride may use a Coach, Chaise, or Chair, which is the only proper Method for lame, old, and decrepid Persons, as well as for those who are so young, that they are not able to manage their own Exer-

cife.

There are also particular Exercises appropriated to certain Parts of the Body; as Shooting, for the Breast; Talking, Singing, Hollowing, Blowing the Horn, or Wind-Instruments, for strengthening, opening, and clearing the Lungs; Tennis or Foot-ball, for those who have weak Arms or Hams; Bowling or Skettles, for the Reins and Loins; Riding, for weak Nerves and Digestion, and those troubled with Head-aches.

In short, there is no one particular Part of the Body, but might be strengthen'd and kept in due Plight by Labour or Exercise rightly ch. X. thro' the various Stages of Life. 289 rightly appropriated to the particular Organ; for it is very remarkable, how the several different Limbs of labouring Men are strengthen'd, and render'd sleshy and nervous, as they happen to be most employ'd in their different Occupations: so the Thighs, Legs, and Feet of Chairmen; the Arms and Hands of Watermen; the Backs and Shoulders of Porters, grow thereby thick, strong, and hard in time; for it is very certain, that using any Organ or Member frequently and forcibly, brings Blood and Spirits into it, and by that means is render'd plump and strong.

The following Conditions ought to be obferv'd with Regard to Exercise, in order to render it the most beneficial that may be. The first, that it be upon an empty Stomach, for then all the Matter which is digested enough for Perspiration, will thereby be easily discharg'd; but Exercise on a sull Meal is very pernicious, for it subverts the Stomach, and forces the Aliment from thence crude and indigested, and so hurries it into the Veins and Habit of the Body, whereby the Secretions are precipitated, and the found Juices are carried off with the corrupted Humours; hence arise frequently putrid Fevers, Pleurisies, Head-achs, weak Eyes, and a general Cacochymy, or a vitiated Constitution.

Secondly, the Morning Exercise is always the best, for then the two Concoctions are finish'd; and Hippocrates is very clear upon this Head,

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in one of his Apharisms, wherein he says, Let us exercise before eating. But it should be moderate and equal; I call that Exercise moderate which is not tiresome, and equal when all the Parts of the Body are equally mov'd.

Thirdly, They that are lean should exercise only ad Ruborem, that is, till the Body and Spirits are gently heated, for that will help to fatten them; but they who are fat may exercise ad Sudorem, that is, till they sweat, for that will help to melt down Part of their Fat, and consequently extenuate the Body.

Fourthly, We must carefully avoid drinking any cold Liquors after violent or great Exercise, or when we are hot and sweating, which Heat and Thirst intice us to do; the dangerous Effects of which, are chilling and almost extinguishing the remainder of the Heat which is left in the inward Parts, and surfeiting the Blood and Juices, by mixing cold Drink with the Fat, which is at that Time partly melted and floating in the Body.

ed is, drinking of strong and spirituous Liquors after hard Labour or Exercise, in order to avoid the former Inconveniencies, not confidering that we thereby incur another, which is over-heating and drying our Bodies, too much heated and dry'd before; but to avoid both, and to refresh the Body at the same time, the best Way is, first to rest a while

warm,

Ch. X. thro' the various Stages of Life. 291 warm, if we can conveniently, and then to drink a Draught of warm Ale or Beer, with a little Mace and Sugar in it, or some other innocent Supping, analogous in Heat or Warmth to that of our Bodies, by which means the Blood and Spirits will soon settle, and be refresh'd, and so the Limbs after Rest will be enabled with Ease to undergo new Labour.

Sixthly, We should carefully avoid catching of Cold after Exercise, by retiring into a warm Room, or some convenient Shelter from the Injuries of the Weather.



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## CHAP. XI. sove com

Of RETENTION and Excretion.

THE Things to be excreted or evacuated, and retained, are the Excrements of the Belly, Urine, infenfible Perspiration, the Semen, and the Menses; for these must be regulated, and evacuated in due Time, and in due Quantity, all which conduce very much to the Preservation of Health and long Life, otherwise they will injure it, and bring on a Multitude of various Diseases. Therefore in a natural and healthy State, we should go to Stool once in 24 Hours, and the Faces should be of a due Consistence, that is, somewhat

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what fost, and stick together, according to the old Saying, Oportet fanorum sedes esse configurates; that is, The gross Excrements in healthy Persons ought to be of such a Consistence, as to take the Impression of the Guts.

They who are costive, and otherwise not well, have either over-heated their Bodies with spirituous Liquors, or have fasted too long, or eaten too sparingly, or they have too slow a Digestion, or too great Weakness of the *Intestines*; and by that means the Food is retain'd too long before the Mouths of the *Lasteals*, and is thereby over-drain'd

of its Moisture, and harden'd.

The best Proportion of the gross Evacuation to the Quantity of the Food we take in, is about the third Part; for they who much exceed that, have the Mesaraick Veins stopt or obstructed, and so cannot be nourish'd; and if it exceeds it, 'tis certain that the Body wastes, unless the Matter of some Disease be thereby evacuated; or else, if they have purging Stools, they have eaten too much of Things too strong for their Powers of Digestion; for it is very certain, that supersluous Nourishment leaves too much Chyle in the gross Excrements, which fermenting in the Guts, stimulates them so as to become purgative.

But if the Looseness be not violent, and the Appetite remains good, it is not to be suddenly and rashly stopp'd; for Nature thereby frequently prevents, and often times ch. XI. thro' the various Stages of Life. 293 rids herself of many a Disease, which upon an unadvised Astriction would be riveted in the Body; and therefore the Rule is, first cleanse and then close. But if it be too violent and frequent, and the Stomach thereby decay'd, it must be carefully and speedily remedied; and in this Case Advice is very necessary, for it is easy to commit an Error, but the Consequence is dangerous.

Here I cannot omit inferting an Abstract of some few Passages out of Cheyne's Essay of Health and Long Life, which are admirable upon this Subject, and very worthy of every Body's Perusal. 'I have often ob-' ferv'd, fays be, that a full Meal of strong ' Meat, as Fish, Beef, Pork, baked Meat, or made Dishes, in tender Persons goes off ' with the Hurry and Irritation of a Purge, ' leaving the Bowels inflated, colick'd, grip'd, ' and the Spirits funk to the last Degree. ' The Food by its various Mixture, Weight, ' and Fermentation, stimulating all along ' from the Stomach to the Rectum \*, and being scarce ever drain'd of its Chyle, ' without affording any Nourishment to the ' Body, runs off thus crudely, and becomes ' equal to a total Abstinence from Food for ' a long Time. And hence we have a most ' infallible Rule, + a Posteriori, to judge ' if we govern'd ourselves in our Diet in T 3

<sup>\*</sup> The straight or last Gut.

<sup>†</sup> A Posteriori, i. e. after the Trial has been made.

Proportion to the Necessities of Nature, and the Forces of our concective Powers.

'This is the very Reason why the Bark

over dosed, and given to Persons of weak

Digestion, so constantly purges them, and

why Mercury given either inwardly, or

by Frictions, runs off in violent Purging,

' and cannot be raised into a Salivation; to

wit, the not adjusting the Doses to the Strength of the Stomach and nervous Fi-

bres; for the Bark naturally binds, and

" Mercury naturally rifes to the most § per-

' vious Glands.

And in this Sense I myself have frequent-

' ly observ'd in weak and scrophulous Bowels,

even Diascordium and Venice Treacle to purge: whereas, had the Doses been duly

' proportion'd, or had they begun by un-

der-dofing, and taken a little longer time,

they might have been effectually answer'd,

'as I have often experienc'd without ever

failing.

'2. There is a very great Error committed in Nurses and Parents in rearing up

'young Children; the perpetual Gripes, 'Colicks, Loofenesses, hard Bellies, Choak-

ings, Wind and Convulfive Fits, which tor-

'ment half the Children in England, are en-

tirely owing to the too great Quantities of

too strong Food, and too rank Milk, thrust

down their Throats by their over-laying Mothers

§ Pervious, i. e. the easiest or readiest Way to be passed through.

Ch. XI. thro' the various Stages of Life. 295

' Mothers and Nurses; for what else do their flimy, their gray or chylous, their blackifh, and cholerick Discharges, the Noise and Mo-' tion in their Bowels, their Wind and Choakings imply, but Crudities from superfluous 'Nourishment? This is so certain, that they ' are universally and infallibly cur'd by testaceous Powders, which only absorb sharp Crudities; by Rhubarb Purges, which at once . ' evacuate and strengthen the Bowels; and by 'Milk Clysters, Issues, and Blisters; and by obstinately persisting in these and the like, '(intended to evacuate and strengthen the

'alimentary Passages) and a thin, spare and

'nutritive Diet; for nothing nourishes but

' Food duly concocted.

'3. I have often heard valetudinary and tender Persons, and those of sedentary Lives, ' and learned Professions, complain of Headachs, Sicknesses at the Stomach, Colicks and Gripes, Lowness of Spirits, Wind and Vapours; and yet pretended they were very moderate and abstemious in their Eating ' and Drinking; but upon Enquiry, I con-' stantly found these very Persons pursued with purging Stools, which was an evident 'Proof to me, that they had taken down 'more than they wanted, or could digest: for 'tis univerfally certain, that those that 'do not exceed, must have either Costive, or at least Stools of a middle Confistence.

'There is nothing more ridiculous, than ' to see tender, by sterical and vapourish Peo-

ple, perpetually complaining, and yet perpetually cramming, crying out, they are ready to fink into the Ground and faint 'away, and yet gobbling the richest and 'strongest Food, and highest Cordials, to oppress and overlay them quite. The pro-' per Remedy in this Case, is first, to cleanse the fatid Abys, and then to preserve it clean, by cutting off all the Inlets of Putrefaction. This will require a little Cou-'rage, Labour and Pain; but the future ' Ease and Sweetness will more than abun-'dantly recompence them; for there is no-' thing more certain, than that the Head-acbs, " Colicks, and nervous Pains and Diforders, of those born sound here in England, univer-' fally proceed from Idleness and Fulness of · Bread.

4. 'Those who pretend to cure themselves of nervous Disorders, or any other chronical Diseases, or preserve themselves from them, or lengthen out their Days, must under-dose themselves, even the they should undergo the Pain of Costiveness; for it is impossible the Nerves of those who have slippery Bowels, should ever be braced or wound up; for there the Cure must begin where the Evil began, and must be communicated thence to the rest of the System; as a Rope-maker begins the Twist at one End of the Rope, and communicates it to all the other Parts,

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Our Access to the Nerves of the Stomach and Bowels, is obvious and open; to the rest the Way is difficult, and far about. And fince a Relaxation, Weakness, and want of Spring in the Fibres, is the Origin of all nervous Distempers, no Medicines ' but such as contract, stiffen, wind up, and ' shorten them, can remedy this Evil; and they must necessarily contract and bind up the Fibres of the Stomach and Guts, as the 'Parts they first approach and exert their 'Virtue upon. And he who without firm Bowels, thinks to cure a nervous Distemper, ' labours as much in vain, as he who would ' keep a Fiddle-string soaking in Oil and Water, to make it vibrate or play off a fine ! Composition of Musick.

5. 'There happens also an Evacuation both by Stool and Urine, to some weak 'Persons of relax'd Nerves, that extremely ' alarms them, and is not fo readily account-'ed for in that Part of Physick, which teaches the Causes of Diseases. It is when either 'a white transparent, viscid Substance like 'Gelly, is constantly voided by the Bowels, ' more or less; or when a white, milky, gluey 'Substance like Cream or laudable Matter, fettles in the Urine. Both these Appearances ' are commonly ascrib'd to an Ulcer in the Guts, or in the Kidneys; and yet I am very certain, there is neither Ulcer or true 'Matter in either Case, as I propose them. For where there is violent and acute Pain,

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Matter of different Colours or Mixtures.

there very possibly may be, nay certainly there is an Ulcer. But in the Case I here

intend, there is very little or no Pain, no

bectical Paroxysms, which always attend an

'inward Ulcer; no bloody or fanious Mix-

tures, which always betray the inward Sore;

ono fœtid Smell to imply Corruption.

The first Case I take to be either an 'Obstruction of some of the Lacteals, whereby the Chyle cannot be carried off in any 'fufficient Quantity, but paffing thro' the 'Guts, and its more watery Part being evaporated, it becomes thick and gelatinous, and is thrown off at last with the Remains of the Food; else it must be an Obstru-'ction of those Glands of the Guts, by which a viscid Matter for lubricating of them is commonly secerned, by the Im-' prisonment and Evaporation of which Matter it thickens and turns like a Gelly (as it does by Cold or Over-feeding, in the Glands of the Mouth, Throat, and Windpipe) and at last, by squeezing of the Guts is thrown off. And in the same manner, I take that ' milky Substance subsiding in the Water, in ' fuch a Case as I have mention'd, to arise from a Relaxation of the Glands of the 'Kidneys and Bladder, and other urinary ' Paffages; and that both are to be cur'd the ' fame Way as other nervous Distempers are ' cur'd; viz. by a proper Regimen of Diet, and

Ch. XI. thro' the various Stages of Life. 299 and a Course of contracting, strengthening, and volatile Medicines."

The second Evacuation is by Urine, being a serous Humour strain'd in the Kidneys, which comes with the Blood (which it diluted) to the Reins by the Arteries of the Kidneys, but is separated from it as excrementitious, and that continually, as Part of the Blood is constantly driven to the Kid-

neys to nourish them.

The Urine contains not only the watery Part of the Blood, but the sharpest Salt, which is most subtile and volatile, and nearly of an alkaline Nature, render'd exceeding volatile. In the watery Part there is also a fætid Substance contain'd, and a viscid Oil so attenuated, that it readily mixes with Water, and is scarce separable from it; which may therefore in some Measure be called a

Spirit.

The natural Salt of Urine is of a lixiviate, soapy Disposition, and much like Salammoniac, yet in some Respects different from it: It also contains a fix'd Salt, of the Nature of Sea-salt, being composed of a lixiviate one, and a nitrous; of which Nature is that which swims in the Blood, the nitrous Parts being imbibed into it thro' the Lungs in Inspiration; so that the Salt in Urine in a sound State, is neither acid, alkali, ammonical, nor briny, but of a peculiar Disposition.

But as Urine is a \* Lixivium of the Salts contained in a human Body, and the proper Mark of the State and Quantity of such Salts; therefore very certain Indications may be taken from the Condition of Urine, to discover both the State of our Constitution, and the Regulation of our Diet; and tho' the Salts of human Urine be neither acid nor alkaline, as I have just now observ'd, yet by the violent Motion of the Blood, as in burning and putrid Fevers, &c. they may be turn'd alkaline, and even corrosive; and when they begin to turn so, they affect the small and tender Fibres of the Brain more sensibly than any other Part of the Body.

When the Urine is of a bright Amber Colour, and of a moderate Thickness, with a light Cloud hanging in it, and in Quantity of about three Quarters of the Liquor taken in, it is best, and a certain Sign of a due Concoction, a just Proportion of Food, and a total Riddance of Repletion and Crudities; for they who live moderately, use due Exercise, and enjoy a perfect State of Health, always

evacuate fuch Urine.

But when it is retain'd too long, either by the Fault of the Kidneys or Bladder, or because the Matter of it is not sufficiently separated from the Blood, or that it is kept too long in the Bladder thro' Laziness or Bashfulness, (as is often the Case) it occasions Stone and Gravel, and sometimes Blotches and Eruptions

<sup>\*</sup> Lixivium, i. e. Lye, fuch as that of Soap.

Ch. XI. thro' the various Stages of Life. 301 tions upon the Skin, Dropfy, fainting, and fleepy Diseases, with a great many other Disorders, too tedious to enumerate in this Place.

If there be too great an Evacuation of Urine from any Cause whatsoever, by taking away the Serum, or watry Parts of the Blood, it will occasion a Stagnation of the Humours, encrease Heat, an unextinguishable Thirst, Crudities, and many Evils of the like Nature; and by depriving the Blood, and carrying out of the Body the most nutritive Parts, produce an Atrophy, or a total Decay, as in

a Diabetes, and Death at last.

The Urine differs both in Taste, Smell, Colour and Quantity, according to the Difference of Ages, Constitutions, Sexes, Seasons of the Year, and Alterations of their Way of living, and Diversity of Medicines; so that they who live freely, and make Quantities of pale, or limpid and sweet Urine, it is a manifest Sign that their Perspiration is obstructed; that neither the first nor the two last Concoctions \* have been rightly persorm'd; and that the Chyle has not been sufficiently attenuated, nor the minutest Secretions duly made by the lesser Drains of the Body, and that the urinous Salts are still retain'd in the Habit.

The

<sup>\*</sup> Concoction in an animal Body is three-fold; the first is confin'd to what Alterations are made of the Food in the Stomach and Intestines; the second is applied to the Alterations made of it in the Blood-Vessels; and that made in the Nerves, Fibres, and minutest Vessels, is not improperly called the third and last Concoction.

The Cure, as to Diet, confifts in living regular, that is, in eating and drinking less, and using more Air and Exercise, drinking freely of small warm White-Wine Whey; likewise a little Gascoign's Powder, or Sir Walter Raleigh's Confection will be proper at the same time, in order to set Perspiration

to rights again.

High-colour'd, foul, and very turbid Urine in small Quantities, proceeds from either an immoderate Use of strong or spirituous Liquors, or from too great abundance of Salts retain'd in the Body; which must be remedied by diminishing the Quantity of their Flesh Meats, and drinking small Liquors, or Water with their Wine, otherwise they will hurry themselves into some acute Instammatory, or dangerous Chronical Disease.

Dark Brown, or dirty Red-colour'd Urine, without any Sediment, and in small Quantity, in acute Distempers is always a sure Indication of insurmountable Crudity, high Instantation tending to a Mortification, and a dying Weakness in Nature: But in those who labour not under any visible Disease at the Time, it is a certain Sign of almost a total Weakness of the digestive Powers, an inseparable Cohesion of the component Parts of the Blood, and a Deadness in all the animal Functions; in which Case, a Physician's Advice is highly necessary.

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A bloody, mattery, wheyish Urine, of that with Films, Bits of broken Membranes, or white Gravel, denote Stone or Gravel, or Symptoms of an Ulcer somewhere in the urinary Passages. Fat, which is observed upon the Top of the Urine, especially of consumptive People, signifies a wasting of

the Body.

The third Excretion or Evacuation to be confider'd is insensible Perspiration, which is imperceptibly discharg'd through all the Pores of the Skin, and other Parts of the Body, being the Recrements of the second and third Concoctions, divested of all that can be of any farther Use to the Parts of the Body; the free and full exhaling of which, is as necessary to Health as any of the groffer Evacuations, being in Quantity at least equal to all that is evacuated both by Stool and Urine; and an Obstruction thereof is generally the Parent of all acute Distempers, as it is a Consequence of all chronical Diforders. But having fully treated of this Matter in another Place already, for farther Satisfaction herein, I refer the Reader to Page 99. Note \*, Part II.

Nothing hinders and obstructs Perspiration more than catching of Cold, which is nothing but great Quantities of moist Air impregnated with nitrous Salts imbib'd through the Passages of Perspiration, by which means not only the Blood and Juices are thicken'd, but likewife insensible Perspiration is obstructed,

304 A GUIDE to HEALTH Part II. and immediately a small Fever, and a Hurry in the whole animal System succeeds; which oftentimes lays a Foundation for Confumptions, Obstructions of the great Viscera +, and an universal Cachery, or ill Habit of Body. Therefore, in order to remedy this Disorder, and prevent the ill Consequences of it, we should lie much longer in Bed than usual, drinking small warm White-Wine Whey plentifully, with some few Hartsborn-drops, Posset-drink, Water-gruel, Barley-water, or any other warm small Liquors, taking twenty Grains of Gascoign's Powder Night and Morning, and at the same Time living low upon Spoon-meats, Pudding, Chicken, and drinking every Thing during the Height of the Illness warm; but if any Cough or Spitting should encrease, Bleeding should be perform'd, and to take now and then a little Sugar-Candy, Oil of Sweet Almonds, or a Solution of Sperma Ceti, to render Expectoration free and easy; and afterwards to be cautious of going abroad too foon, and without being well cloathed.

Gripes, Purging, Colical Pains, much belching of Wind, Low-spiritedness, Yawning and Stretching, are sure and certain Indications that Perspiration is deficient or obstructed; therefore, in order to remove these Disorders, we must have recourse to a greater Degree of Exercise and Abstinence, and to some gentle Purge or other, such as Sena

<sup>+</sup> Viscora, fignify any of the Bowels or Intrails.

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Sena and Manna, or Rhubarb, &c. to clear
the first Passages of the Load that oppresses
them, otherwise the Person will suffer at
last; and, as Sanctorius observes, Wind in
the Body is nothing but Perspiration + obstructed.

The fourth Evacuation to be confidered is the Semen, confisting of a white, hot, spirituous, thick, clammy, and faltish Humour, which is elaborated in the Testicles and Epididymes, out of the purest and most spirituous Parts of the Blood. Confidering it therefore in this Light, Moderation in Coition is absolutely necessary, both for the Preservation of Health as well as Pleasure; for in Immoderation we do not confult Delight, but Lust, and lose the Pleasure by being too intent upon it: And it is certainly true, that those Parents who are most continent, have more and the most healthful Children: for they meet their Pleasure by Necessity: In these it cheers the Heart and Spirits, and makes them breath free and easy; it appeafes Melancholy and Sadness, mitigates Anger, and disposes to Rest. But then that Moderation receives its Difference very much from the different Temperature of Constitutions: for less is sufficient for the Melancholy and the Cholerick, the Old and Emaciated; but more for the Sanguine and Plethorick, and those of a middle and flourishing Age: The Feverish in any kind of Constitution must a-

<sup>+</sup> Aph. xiii. Sect. 3.

306 A GUIDE to HEALTH Part II. void it, and likewise they who are subject to

the Gout, and Diseases of the Joints.

On the other Hand, the immoderate Use of Coition not only hinders Perspiration, by keeping the Fibres too strait, and lessening the Passages, and thereby giving rise to all the Disorders which attend an obstructed Perspiration, but likewise it disorders and weakens that due Tension and Elasticity of the Solids, upon which depends a right Discharge of all the animal Functions. I say, therefore, whatever weakens this Disposition of the Solids, cannot but very much prejudice the whole Constitution. And that all violent Actions, fuch as that of immoderate Coition is, are destructive to the Textures of the Solids, cannot be doubted; for their constituent Fibres or Threads will not only be much injured in their Contextures, but also that animal Oil or Spirit which nourishes them, and facilitates their Motions, will be so much press'd out and wore away, asto difable them very much afterwards in their natural Motions; and the Body will be, by that means, so weaken'd and dispirited, that the several Parts will not be able to discharge their respective Offices, whereby Digestion, Concoction, and all the natural Evacuations will be disordered.

Hence follow a Diffolution of Strength and Spirits, Dulness of Memory and Understanding, Dimness of Sight, Diseases of the Nerves and Joints, as Palfies, and all kinds of Gouts, Weakness of the Back, and Consumptions;

Seminal

Ch. XI. thro' the various Stages of Life. 307 Seminal Weaknesses, and sometimes bloody Urine; a deprav'd Appetite and Head-achs, with a great many other Disorders needless to be mentioned here; and, to conclude, there is nothing that so wonderfully shortens human Life, as the immoderate Use of Venery.

In the fifth Place we are to confider the Menses as a necessary Evacuation, which are Excretions of arterial Blood every Month from the Womb: They begin usually when young Maids grow ripe at sourteen, and sometimes at twelve, but very seldom before: They cease naturally in pregnant Women, and those past bearing Children, and likewise those that give suck; yet it happens sometimes that pregnant and suckling Women have them.

The Quantity of them ought to be in proportion to the Quantity and Heat of the Blood; but, generally speaking, a certain Quantity cannot be limited, for some have a great many, and some but a few; nor do they continue upon all alike; some have them two Days, some three, some four, some six or eight Days.

They that have them too much are weaken'd, and their Blood being rendered crude, watery, and pale, are subject to Faintings and Waste: Those in whom they are suppress'd, become bysterical and breath difficultly, look pale, and lose their Appetite, and fall into Fevers, Instammations, and a U 2 great great many Diseases, both acute and chronical, if they are not timely remedied.

There are other Excretions which could not conveniently come in under the foregoing general Heads; such as Sweat, Spittle, Mucus or Snot, Tears, and the Wax in the Ears.

Sweat is a thin ferous Fluid, mix'd with some Sulphur, a good deal of briny, but more volatile Salt, and a very little Earth: And the same Properties being found in Urine, we may conclude, 1. That Sweat and Urine may supply each other's Defects: Accordingly we find, that as Sweat is promoted, the Excretion of Urine is diminished, and on the contrary. 2. That they may be provoked by the same Remedies: Thus Diaphoreticks, or fuch Medicines as promote Sweat, failing to answer their Intention, prove Diureticks; that is, purge by Urine. 3. That Sweat carries off many of the sharp Salts. with which the Blood abounds, and by that means may accidentally prevent or cure many Distempers, is not to be doubted.

Sweat therefore differs very much from insensible Perspiration; for if it be encreased, and its Vessels enlarged, Perspiration must unavoidably be diminished, and its Vessels compress'd. Perspiration also is turn'd into Sweat, by violent Motion, and too much Heat, tho by moderate Motion and gentle Heat it is very much promoted; but nothing can be more serviceable to promote it than gentle Friction of the Skin for some Time Night

Ch. XI. thro' the various Stages of Life. 309 Night and Morning, as I shall observe in a another Place.

The Saliva or Spittle, (of which I have given a Hint before) is a thin transparent Humour, almost void of Smell and Taste, which will entirely evaporate by Heat, but not curdle; and when shaken affords a ropy Froth. It is separated from the purer Part of the arterial Blood or Serum by the Glands; and when a Person is hungry it flows in great Quantities, and is then more fluid and sharp; after long fasting it is very penetrating and detergent; it ferments with Bread, Meal, or Syrup, and promotes Digestion. Men, as well as Brutes, swallow it in Health, and likewise when asleep: When too much of it is spit out, it occasions loss of Appetite, slow Digestion, and an Atrophy or Consumption. It is composed of Water, Salt, Oil, and Spirit, all which can be extracted from it, which renders it saponaceous, or of the Nature of Soap.

This Fluid then being press'd out of the Glands, lays the first Foundation of assimilating the Food to the Body, and promotes the Mixture of oily and aqueous Substances, and a Solution of faline ones: It also promotes Fermentation, excites an intestine Motion of the Parts of the Food in the Stomach; fo that Digestion could not be perform'd wo out it.

Therefore as this Fluid is of fuch great Use, when mixed with our Food, it ought not to be lavishly U

lavishly spit away; for when it is swallow'd, having perform'd its Office in the Mouth, and being return'd into the Blood, it is still farther improved by repeated Circulation and Digestion; and when separated in the Glands

again, is highly amended.

Hence it is manifest, that they who immediately upon eating fall a smoaking or. chewing of Tobacco, as is generally the Custom here, and that even among People of the better Sort, commit two very great Errors, highly destructive to their own Constitutions: 1st, In diverting the Saliva or Spittle from its natural Offices, by spitting it away in fmoaking or chewing, being one of the chief Menstruums, for Medium, for promoting Digestion, as I have just now demonstrated. 2dly, In using that stupifying American Henbane upon a full Stomach, which, besides the great Injury it does Nature, in depriving her too much of that necessary Fluid the Saliva, has also an intoxicating opiate Quality, by which (as all other Opiates do) it destroys the Appetite and hinders Digestion, the Truth of which is evident to all good Practitioners in Phyfick. Therefore, I fincerely advise all those who have any Regard for the Preservation of their own Health, to avoid carefully this pernicious Custom, and never to smoak but upon an empty Stomach, or at least till the greatest Part of the Food is out of it, which always requires some Hours after eating; and, even then, no Body except gross

Ch. XI. thro' the various Stages of Life. 311 and phlegmatick People, should smoak at all; because lean, thin, scraggy, dry, and cholerick Constitutions are heated and dry'd too much by it, which throws them oftentimes into

Confumptions or other Decays.

Mucus, or Snot, is a clammy and viscid Humour, which flows from the Extremities of the olfactory Nerves \* through the Os Cribriforme + into the Nostrils and Palate: It also fignifies that slimy Liquor, or Mucilage, which daubs over and guards the Bowels, and lubricates the chief Passages in the Body from being corroded by any saline or sharp Humours; but the Superfluities of it are excreted by the Nostrils and Intestines.

Tears are a serous Humour, prepared out of the arterial Blood in the Lachrymal Gland ‡, and are of a saline, watery, clear, and smooth Disposition, discharged always in a small Quantity, but more plentifully when the Eye is rubbed or compressed by the Orbicular Muscle ||. This Humour serves to moisten,

U 4 wash,

\* Are those Nerves which give the Sense of Smelling.

+ It is a Bone full of small Holes, like a Sieve: It is also called Os Ethmoides, situated in the Middle of the Basis of the

Os Frontis, or Forehead-Bone.

It is a pretty large conglomerate Gland or Kernel, being broad, compress'd, rough, and placed within the Orbit, towards the outward Angle of the Eye, near the rough Chink, and inclosed in Fat; is endowed with Arteries, Veins, Nerves, Lymphaticks, and Ducts, which carry a Humour to the Eye prepared from the arterial Blood.

It is the Muscle which serves to join the Eye-lids togegether, contracting them like a Sphinster, and by a strong Contraction presses the Ball of the Eye, and squeezes out Tears upon the external Superficies of the Eye, which is thereby

cleansed of its Filth, and the Eye itself washed.

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wash, and render the Eye slippery, and prevents it from sticking to the Eye-lids: It likewise serves to wash off any Filth or external Bodies, which, by adhering to the Eye, might cause Pain, or darken the Sight; but if this Humour be too much, so that it cannot be received by the Lachrymal Points\*, it slows from the Eyes, and is called Tears.

Cerumen, or Ear-wax, is the Excrement of the Ears, which sweats or ouzes out of the Cartilages and Glands bordering upon the Ears: It consists of Abundance of Salt and Sulphur, which gives it its Bitterness: It serves to hinder Dust, Motes, or little Animals from getting into the Ears.



## CHAP. XII.

Of the Passions or Affections of the Mind.

Shall briefly treat of the Passions here, not as a Natural Philosopher, but as a Physician; therefore I shall not consider their Essences and Causes, but their Effects and Influence

<sup>\*</sup> They are Holes in the Bone of the Nose, by which the Matter that makes Tears passes to the Nostrils; but if these Holes grow hard and are stopp'd, from an Ulcer in one of the Glands in the Corners of the Eyes, thence arises a Fisula Lachrymalis.

Ch. XII. thro' the various Stages of Life. 313 fluence upon human Bodies, and how their Regulation conduces to the Preservation of Health and long Life. For as to the Manner how the Mind or Thought operates upon the Body, or how fuch a Constitution of the Humours can affect the Passions of the Mind, and what that Tye or Bond of Union is, between the Mind and the animal Fluids, is a Mystery unreveal'd to Man, being, at least mechanically, not reducible to Reason, it being impossible to represent and delineate, as we do corporal Substances, the several Steps and Ways of Procedure of those Agents. which can by no means be brought under the Notice of our Senses, only in their Effects; and therefore we cannot have any Notion of the Procedure by which they are brought about, as we can have of all those affected by physical Agents. But as it is certain that the Passions of the Mind do influence very much and alter the Constitution, especially when very fudden and intense, so far as necessarily to bring it under the Physician's Care, still the wifest must herein be contented to establish his Rules upon Observation and Experience only.

There is nothing more remarkable, than that violent Passions of the Mind waste and consume the Spirits, and plunge the Constitution into great Disorders; and this they feem to bring about by universally stimulating, irritating, and twitching the Nerves and Fibres, in fuch a Manner as disturbs their regular Contractions: And altho' we cannot

politively

positively tell, either how Thought can produce fuch an Alteration in the Humours of the Body, or how fuch a Constitution of the Humours can affect the Passions of the Mind; yet if by constant Observation and Experience it can be found, that such a Passion or Temper of the Mind is always attended with fuch Consequences in the Constitution; and that such a particular Temperature of the Constitution always affects the Mind with such particular Passions and Dispositions, it will very fufficiently afford a Ground of Certainty to any confiderable Person, in his Reasoning upon their Consequences, and in the Meafures which ought to be taken in remedying the Disorders of either.

For Instance, if Joy or Anger are always found to render the Body lighter, tho' we cannot tell how these particular Passions do first modify any particular Parts of the Body, so as to produce that Effect, yet it being plain how physical Agents do the same, it will be most reasonable to conclude, that these do it also by the same Means; that is, thus far we know, that an Invigoration, or an Increase of the contractile Force of the Solids, will promote Digestion, increase the Evacuations, and render the Body lighter.

Therefore we have the greatest Reason to believe, when we see the same to be the Consequences also of a Person's being passionately angry or very merry, that these Dispositions of the Mind (altho) we know not how)

Anger.

Ch. XII. thro' the various Stages of Life. 315 do give that particular Modification likewife, and Degree of Tenfion to the Fibres, as Coldbathing, a cold clear Air, or moderate Exercise, when we see them attended with the fame Confequences. 1886 O in inflitoo vd li 189

But as we know these physical Causes have this Effect, by contracting and flaking the Fibres of the Solids, and thereby promoting their Power of Elasticity, and breaking the animal Juices finer; fo it ought to be concluded, that these Passions of the Mind do likewise give the same Modifications to the Fibres, by which the same Effetts are produced.

In like Manner, if Fear and Sorrow are found to be attended with an Increase of Weight in the Body, it is reasonable to think that they do it by the same Means as by which all those physical Agents produce the same Effect; that is, by flackening the Fibres too much, diminishing Digestion, and confe-

quently by lessening the Evacuations.

Therefore when any Paffion of the Mind is faid to have this or that Effect upon the Body, we ought to consider that Paffion only as a physical Agent; that is, as it contracts or flackens the Fibres, and as it increases or diminishes the Evacuations; but in this we are guided only by Observation and Experience, which is very fufficient to a Person of any tolerable Judgment.

The chief Paffions of the Mind, from whence all the rest proceed, are Joy, Grief, Anger, 316 A GUIDE to HEALTH Part II.

Anger, Love, Hatred, Shame, Hope, and
Despair.

foy or Mirth is a Delight arising from fome Good we suppose we have obtained; and this, above all the rest, conduces to Health, at least if it be moderate; for it keeps the Fibres in their natural Tension, assists the Secretion and Derivation of the Spirits to all Parts of the Body, and consequently promotes the Circulation and Digestion, and raises thereby a plentiful Perspiration, and renders the Body lighter; but immoderate foy is very injurious, and proves sometimes mortal, the Spirits being thereby too much raised, and by the Suddenness of the Passion too much rarested beyond their natural Standard.

Grief or Sorrow is a troublesome Languishment afflicting the Mind, arising from the Apprehension of some Ill happened or befalling us: By it the Spirits in the Brain and Nerves move slowly and very feebly; so that it produces a great Weight in the Breast, Suffocation, and oftentimes Death, when sudden and extreme.

Anger is the Desire of Revenge, upon the Apprehension of some Injury done or offer'd to us: By it the Spirits are violently agitated in the Brain and Nerves: It encreases the natural Heat, and, if moderate, it may be useful sometimes, in order to stir up a brisk Circulation of the languid Fluids in a cold and phlegmatick Constitution, by which means the

Ch.XII. thro' the various Stages of Life. 317 the Body is rendered lighter; that is, it will then perspire better: But, on the contrary, Anger is pernicious to bot, dry, and cholerick Constitutions; because, in such it will dissipate the Spirits and dry the Constitution too much.

Love is a certain Passion of the Mind, excited in the Soul by the Motion of the Spirits, arising from an Object which we judge to be good, convenient, delectful, and amiable; so that the proper Effects of Love consist in this: That we consider ourselves as united to the Object we love, and that it is, as it were, another Part of us.

Love may be properly distinguished into three Kinds: 1. The first is spiritual, as the supreme Love of the blessed Author of our Being, (to which our Love to all other created Beings is subordinate, at least it ought to be fo,) which is that Union, Tendency, Biass, and Impulse of the Soul and other Spirits towards their bleffed Creator, without any indirect Ends, without Deceit or Dissimulation, for his own Sake; because he is infinitely good, infinitely amiable, and infinitely perfect, abstracting from all other Confiderations, even that of our own Happiness, in the Enjoyment of, or Union with him. Yet it is certain that these two, our Love to God and our own Happiness, cannot be actually separated: And this Love was communicated by him to them in their original Formation, by Virtue of which they constantly tend, press, and urge to unite; and,

if Obstacles were removed, would unite with one another, and so be all united with their omnipotent Maker. But now, alas! this Principle of the intelligent Soul, in this her lapfed State, being drawned in Sense, chain'd and fetter'd by Ignorance and Perverfenels, drawn and hurried away by the Devil, the World, and the Flesh, is disabled from exerting this inherent and innate Principle of Reunion, and wants fufficient Light on the Understanding, and a right Turn of the Will, to be put in a Capacity of exercifing it; but in its proper Vacuity, and being freed from these Letts and Impediments, it would unite with its first Author, the Centre and Rock out of which it was bewn, and mount towards him like an Eagle towards the Sun.

And even in this our lapfed and forlorn State, there remain evident Footsteps of this innate Principle still uneffaced; such are the Checks of Conscience, natural Affection, and the universal Defire of Immortality, and the Dread of Annibilation; and the Worship bestow'd by all Nations, who are not funk into mere Brutality, on some superior and invifible Powers: I fay, these are Remains of this Principle, and its Operations, sufficient to shew its Reality à posteriori, as the Laws of Analogy, and the Nature and Attributes of the first Being, shew it à priori. For the Author of Nature, who created intelligent Beings only in order to make them bappy, could not leave them to so many different Attractions, without

Ch. XII. thro' the various Stages of Life. 319 without implanting into their Effence and Substance, as an Antidote to so many Distractions, an infinite Tendency, Bent, and Biafs towards Beings of the same Nature, and towards himself, who was the Cause and Object of their Felicity: And those, who admit of Revelation, cannot doubt of it a Moment. Mofes\* calls it, a Law engraven on the Heart of Man; and St. Paul +, the greatest Perfection of human Nature; whatever Men of Self-love and carnal Minds may think of it otherwise.

The Second is Human, towards particular Persons and Things, as Parents, Wife, Children, Friends, or Things. Towards the first, Love ought to be fincere, hearty, constant, begotten, continued for their Sakes, and not for our own; but yet it should be limited and subordinate, with a due Submission to the Will and Love of God: That to Things is not to be fixt, but changeable, as Necessity requires for our Support and Use; because the Things themselves are so; which we are to love, as if we loved them not, according to the Apostle.

The third Sort of Love, is that which is shewn from one Sex to another, and ends in Matrimony: This is naturally imprest upon us, and it is carefully to be preserved from Dotage and Lust; for when it takes Fire from the last, it is never permanent, but soon cloys itself, and vanishes upon Satiety: Reafon is here loft, which is the principal Cause of fo many unhappy Marriages we fo frewith which of or modiquently

<sup>\*</sup> Deut. xxx. 14.

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quently see. As to Dotage, it is an impotent and unreasonable placing of the Affection upon another, which gradually draws all the Faculties, both of the Soul and Body, into a Languer and Consumption, oftentimes pro-

ducing Lunacy or Madness.

However foreign this metaphysical Speculation, concerning spiritual Love, may seem to a physical Treatise about Health, which I proposed to avoid in the Beginning of this Chapter; yet having seriously and attentively consider'd the Matter since, I sound it both useful and necessary; because, if we steadily believe it, and reduce its natural Consequences to Practice, it will not only become the most effectual Means to prevent Diseases, but also the most powerful of any Thing to promote Health and long Life, which I shall evidently make appear, before I sinish this little Chapter.

Hatred is the Apprehension of an Object which we judge hurtful or inconvenient: It is likewise Sorrow for the Good, and Chearfulness for the Ill of another. It occasions a slow and unequal Pulse; a sharp and stinging Heat, intermix'd with Cold piercing the Breast; the Stomach ceases from its natural Office, so that the Food being thereby crude and indigested, produces Nauseas and Vomitings, or is converted into corrupted Humours in the Habit of the Body, which are oftentimes the Parent of many grievous Diseases.

Shame

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Shame is an Uneafiness of Mind upon Account of having done something that is unseemly, or that lessens one's Esteem among others: It is likewise a great Apprehension of Scandal: The Humours and Spirits being thereby variously agitated and consounded, frequently plunges the Body into satal Disorders.

Hope is a Desire of some suture Good, which seems difficult to be obtained, but yet possible. By it a great Flow of Spirits tends to the Heart, which quickens its Pulsation, and accelerates the Motion of the Blood. And this Affection oftentimes prevents the ill Effects of other Passions, such as those of Grief or Sorrow, Hatred and Despair, &c.

Despair is a Passion of the Mind arising from the Apprehension of some Good, which we judge impossible to be obtained. In Despair the Pulse is generally very obscure, unequal, and fometimes almost lost and creeping, the spirituous and most fluid Parts of the Blood being diffipated, so as to leave the Salts, Earth, and groffer Oil in too great a Proportion in the Body, which at last affect the tender Vessels of the Brain, by the Viscidity of the Matter impacted in them, that thereby the Imagination is disordered. dark Melancholy, flow and long Grief, hopeless Love, and presumptuous Pride (which is a violent Degree of Self-Love) impair the Body, by causing the proper Times of necessary Food and Exercise to be neglected, and

322 A GUIDE to HEALTH Part II. and thereby depriving the natural Functions of their usual Supplies, overworking and wearing out some Part of the nervous System. and leaving the other, as it were, to rust, and so become too rigid and stubborn for want of Use: Besides, some of the Passions, as Pride, Love, and Grief, when immoderate and intense, terminate oftentimes in Lunacy and Madness; nay farther, even the Frequency and daily Increase of wanton and common Self-Murderers, are chiefly produced by these inordinate Passions, and their blasphemous and frantick Apologies grafted on the Principles of Infidels, and propagated by their Disciples, scarce known or heard of, at least not practised, in any Christian Nation but this, and her Daughters; for it is a manifest Truth, that those who have no Notion or Thought of a future State, with regard to either Happiness or Misery, cannot have the true Love of God; and therefore such will always give a full Scope to all the Excesses of their brutish Passions, till at last, through some Disappointment, or Despair in gratifying their Senfualities, they most atrociously lay violent Hands upon themselves, contrary to the very Dictates of both the Law of Nature and their own Reason, revealed Religion being always a mere Phantom in the Thoughts of all such unhappy Wretches; and thus, alas! they wantonly destroy both Body and Soul at once. The

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The Passions may be divided very properly into acute and chronical, in the same Manner, and for the same Reason, as Diseases are. The acute Passions, either pleasurable or painful, produce much the same Effect, and act much after the same Manner, as acute Diseases do; for they cause a brisk and lively Circulation of the Fluids, and brace up and contract the Solids for some Time. Thus sudden Joy, Grief, Pleasure, or Pain, stimulate and contract the nervous Fibres, and the Coats of the animal Tubes, and thereby accelerate the Motion of the included Fluids, for the fame Time; but as the Motions of the Heart and Lungs are involuntary, they produce their more immediate Effects upon them; fo that both sudden Joy and Grief occasion short and quick Breathing, and a small and frequent Pulse.

A fudden painful *Idea* renders a quicker Circulation of the Blood, whereby a greater Quantity of it is thrown upwards, through the larger Branches of the great Artery, from the Heart, and makes it appear in the fuperficial Vessels of the Face, Neck, and Breast, which produces what we call a Blush. Thus we see that the Reasons why we sigh upon some Occasions, and blush at other Times, depend upon the different Structure of the Heart and Lungs, being the Organs of Pulsation and Respiration; for a quick surprizing Pain of the Mind acts immediately upon the Heart, because its Motion is altogether involved.

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luntary;

luntary; so that any sudden Contraction takes Place there directly, to accelerate the Pulse. On the other Hand, we have some Power over the Breathing; for we can retain it for a little while; because, when we think intensely, our Attention is partly the Cause of retaining our Breath, from whence proceeds

Sighing rather than Blushing.

The Effects of the Suddenness of these Passions being thus accounted for; yet when they become extreme, they drive about the Blood with fuch Violence, that Nature is overwhelm'd, like a Mill by a very great Flood; infomuch that what drove it only brisker round before, intirely stops it now, and renders the Complexion pale and ghaftly. Thus sudden and great Fear or Grief so much convulse the whole System of the Nerves, that they alter the very Position of the Parts sometimes, and fix them in another Place; so that in a great Fright the Hair stands upright, and the whole nervous System becomes fo stiff and rigid, that they lose their Elasticity; by which Means the animal Functions cease from all Motion, and then Fainting, and oftentimes Death fucceeds.

Chronical Passions are called all those slow Passions of a long standing, which, like chronical Diseases, waste, wear out, and consume the nervous System; for those Nerves which are necessary for administering Ideas to the Imagination, being constantly employ'd, are impair'd, broken, and worn out; and the

Ch. XII. thro' the various Stages of Life. 325 rest, for want of being used, become stiff and unactive, dull and destitute of a sufficient Quantity of warm Blood and due Nourishment, as I have observed already; so that the whole Fabrick languishes, and runs into a

total Decay at last.

But as the Passions, when flow and long continued, relax, unbend, and diffolve the nervous Fibres too much, fo the violent and fudden ones contract, stretch, and bend them in too great a Degree, by which means the Fluids are hurried about with violent Rapidity; fo that all the Secretions are either stopp'd by the Contractions, Cramps or Convulsions produced by those Passions, or are precipitated crude and indigested into the Habit of the Body, and so beget, or at least. dispose it to, Inflammations, Fevers, and Mortifications: For Example, a fudden and high Degree of Anger, Hatred, and Malice, are but Degrees of Frenzy, and that is one kind of a raging Fever. Hence it is evident, that the violent and sudden Passions, which I call acute, are more dangerous to Health than the flow and continued chronical ones, as acute Diseases are more pernicious than chronical.

From what has been said, it is manifest that the *Passions* have very great Influence on *Health*, being of such Force as not only to hurry us into Numbers of Diseases, but likewise to bring upon us oftentimes sudden and unprovided Death. But if we would prevent

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the ill Effects, and totally extirpate all the Evils arising from our Passions, we must necessarily lead a fober and virtuous Life; make use of our Reason, which, affisted with the Divine Spirit, is able to keep down the Surges of all our Passions, and is given us, by the infinitely wife Creator, to be a Check and Bridle to prevent and restrain all their Extravagances: So that notwithstanding the great Force of our Passions, yet are we not left without a fufficient Power of Resistance; but to yield to them for want of exerting that Reason, by which we might restrain them, would be base Cowardice, unworthy a rational Being, and the blackest Ingratitude to the glorious Author of all Happiness. Towards him all our Thoughts should be bent; in him all our Hopes should center: Nor should our Affections cease flowing to him incessantly, not only as he rewards and recompences Virtue, but as it is a Remedy against all those various Diseases that are ingender'd by Excess in the Paffions: For as the Love of God is a fovereign Antidote against all other Miseries, so, in particular, it prevents effectually all the bodily Disorders the Passions produce, by keeping them within due Bounds; and, by that unspeakable Joy and perfect calm Serenity and Tranquillity it gives the Mind, becomes the most powerful of all the Means of Health and long Life. Therefore, if thou wouldst enjoy good Health, love thy Creator, keep thyself virtuous, and regulate thy Passions. I shall

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I shall conclude this Chapter with an excellent Passage upon this subject, from Dr. Cheyney's Esfay on Health and Long Life, which, in his own Words, is as follows. If Men would but observe the Golden Mean in all their Passions, Appetites, and Defires; if in all their Thoughts, Words, and Actions, they would but mind, I will ' not say the End of their Being and Exiflence here, but the End to which their 'Thoughts, Words and Actions, tended in ' their last Resort; and lastly, if in the Gra-' tifications of their Appetites, Passions, and Defires, they followed the uncorrupted ' Dictates of Nature, and neither spurred her on beyond her Craving, nor too violently 'restrain'd her in her innocent Biass; they would enjoy a greater Measure of Health ' than they do, have their Sensations more delicate, and their Pleasures more exquifite, live with less Pain, and die with less ' Horror. For had it not been for the Lewd-'ness, Luxury and intemperate Gratifications of the Passions and Appetites, which first ruined and spoiled the Constitutions of the ' Fathers, whereby they could communicate only a diseased, crazy, + and untuneable 'Carcass to their Sons; so that with the 'World's Decay, vicious Souls and putrified Bodies have, in this our Age, arriv'd to their highest and most exalted Degrees; I ' say, had it not been for these Evils, there X 4

<sup>†</sup> The Temperature of Humours in an animal Body.

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'never had happen'd so much Sickness, Pain

and Misery, so many unhappy Lives, and

fuch wretched Ends, as we now behold

among Men.

But even in this our lapsed Estate and Condition, had the Dictates of Nature and Reason, not to say Religion, been followed, we might have passed our Days in Indolence (at least from chronical Distempers) if not innocent Pleasures, arrived at a good old Age, with our Senses free, and our rational Faculties clear, and at last def parted in Peace, as a Lamp goes out for want of Oil. And let the Gentlemen of Wit and Fire, of Banter and Sneer, hug themselves ever so much in their boasted 'Tranquillity and Security, gratify their Paffions, Appetites, and Humours to the full, ' and despise Futurity and Whining; I dare promise when the Farce is ended, and the last Minutes are drawing on, they would prefer a Life thus led, and an End so calm, to all the Pleasures of Lewdness and Senfuality, and the Bounces of a false and ig-! norant Security."



A

# GUIDE to Health, &c.

### PART III.

#### CONTAINING

The Definitions, Diagnosticks, Prognosticks, and curative Indications both Medicinal and Dietetical of acute and chronical Diseases; with the Nature and Use of BATHING and FRICTIONS.

### INTRODUCTION.

BEFORE I proceed upon Fevers, as mention has been so often made of acute and chronical Diseases, it will not be improper to give the English Readers a clear Account of their Nature and Difference in this Place.

Acute Diseases then are such, as within some short limited Time have their Periods either of a perfect Crisis and subsequent Recovery, or of putting an End to Life and the

the Disease both together; and they are therefore called quick, sharp, or acute Diseases, being attended with an increased Velocity of the Blood; the Symptoms of which are more violent, their Duration shorter, and their Periods more quick, terminating either in a fudden Death, or a Victory over the Distemper, and they are generally limited within

forty Days.

But those Diseases that run out longer become chronical, whose Periods are more flow, their Symptoms less severe, and their Duration longer: and they likewise would, by the Course and Efforts of Nature, and the animal Oeconomy, have their Periods, and terminate at last, if fresh Fuel had not been frequently added to them by Intemperance and Debauchery; for the Viscidity of the Fluids, and the Laxity of the Fibres, would be removed in time, by proper Remedies and a due Regimen, and so People would recover in these as well as in acute Disorders.

But as this requires long Time, much Care, and great Caution, Patience, and Perseverance; and fo long and continual a Course of Self-denial, that few People are willing to undergo it; fo that it is become the Reproach of both Physick and Physicians, that acute Cases are cured by themselves, or rather that Nature cures them, and that chronical Diforders are never cured, as a great many do falfly

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falfly affert: for in acute Cases, Art and Care judiciously and timely applied, will always asswage the Symptoms and Suffering, and likewise forward Nature to the Relief she points out, and hasten the Crisis, which it will constantly bring about if the Disease is not too great for the Constitution; and even then it will allay the Pain, and lay the Patient gently down.

And as for the last Case, if due Care be had to follow seasonably the Advice of an honest and experienced Physician, certainly a Period may be brought about in most chronical Diseases, provided the great Viscera or Bowels are not spoiled and destroyed. And the Fault is commonly in the Patient himself, who will not, or cannot deny himself for a sufficient time to bring about the Cure.

There are some chronical Diseases indeed, such as either by having been gone too far, or by being hereditary, and interwoven with the Principles of Life, are never to be radically cur'd or got over: and these last must rest contented with that Measure of Health their original Frame will admit of. Yet I am morally certain, that if the Rules and Directions set down in this Treatise, be carefully and constantly observed and steadily pursued, very sew chronical Distempers but will receive such Relief and Ease by them, as to render the remainder of Life tolerably easy, and free from grievous Sufferings: and that

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is all that is left for Art to do in the abovemention'd Case. But in other chronical Diseases, where the Bowels are not quite viciated, and taken in due time, by observing and steadily following the same Rules, would in-

fallibly bring about a perfect Cure.

In acute Diseases, a quick Pulse is a certain and distinguishing Sign; but in chronical Cases it is slow: and the first consumes the Fluids, and wears out the Solids in a short Time; but the last will require a longer Time to produce the same Effects. Some acute Diseases terminate sometimes in chronical ones; and some chronical Distempers towards the last satal Period of Life turn acute.



## TO THE WAY OF THE PARTY OF THE

### CHAP. I.

Of Fevers, both in general and particular.

A Fever is an inordinate Motion, A Fever and too great an Effervescence what. of the Blood, attended with Cold first, and afterwards with Heat, Thirst, and other Symptoms, whereby the animal Oeconomy is variously disturbed; or according to our English Hippocrates, Dr. Sydenham's A Fever is nothing else but the Definition.

Effort of Nature to free herself of some

'morbifick Matter, which she finds injurious, in order to establish a better Health."

The learned Boerhaave says, that Boerhaave's a Fever is the most frequent Di-Sentiments. Stemper that happens, an inseparable Companion of Inslammations of all kinds, and is ever attended with a manifold variety of Symptoms.

In every Fever from an internal The Symptoms. Cause, the three chief observable

Symptoms are, first, an universal Trembling, then a quick Pulse, and an increased Heat, various as to Time and Degrees. When the Symptoms are very urgent, and very hastily make their Progress, the Fever is called acute; but when more mild and gentle, it is denominated

minated a flow Fever. And a Fever almost always begins with a fort of cold Shivering, soon after the Pulse growing quicker, affords the primary Diagnostick.\* of a Feven; so that an increased Velocity of the Contraction of the Heart, together with a greater Resistance at the capillary Vessels, make up the Idea of an acute Distemper, which may be produced by an infinite number of Causes. The Health of the Patient seems to be the primary Aim of Nature in Fevers; notwithstanding, Fevers often end in Death, and sometimes they degenerate into some other Diseases.

The general The general Cure of Fevers is Gure. Summarily comprehended in confulting the Strength of Nature, in correcting and discharging Acrimony from the Blood, in dissolving gross Humours, and expelling them, and in mitigating the Symptoms: and if we perceive the Symptoms to run high, and Nature to grow exorbitant, we moderate it by enjoining Abstinence, a slender and cooling Diet, drinking tepid Water a little acidulated, Bleeding, cooling Clysters, &c. But if Nature seems to be too sluggish, she is to be excited by Cordials, Aromaticks, and Volatiles, &c.

Of the Symptoms. The Cause of the Fever being taken away, the Symptoms will cease, in as much as they primarily depend

Is that Judgment of a Disease that is taken from the prefent Symptoms, and Condition of the Patient.

Ch. I. thro' the various Stages of Life. 335 pend upon it; so that if they can be born without Danger of Life, they scarce require any particular Cure, nor many times are they to be interrupted without great Caution; but if they be unseasonable, and too violent, they are to be mitigated with proper Remedies, due Regard being had to the Cause and State of the Distemper.

In the beginning of Fevers, The Benefit of exif the Stomach has a natural hibiting a Vomit.
Inclination to cast, it is abso-

lutely necessary to give a Vomit; for else in the Progress of the Fever, a Looseness will be apt to break forth, which may be of dangerous Consequence: and the proper time to give an Emetick is indeed in the Beginning; however, if it should happen to have been omitted, it may be given at any time of the Distemper, provided there be sufficient Strength to bear the Operation, and after it some Anodyne, or quieting Medicine. Afterwards, if Bleeding be not indicated, and there be no Looseness, a Clyster may be administer'd every other Day, until the tenth or twelvth, at which time Nature inclining towards a Crifis, in my Opinion, some warming Medicines may be given to haften the Concoction. If the feverish Ebullition proceeds regularly, and in due order, there feems to be no need of giving any Medicines at all; for as much as the Depuration of the Blood is wholly and folely the Work of Nature.

Commonly about the 15th Day, if there be a laudable Separation in the Urine, and a Remission of the Symptoms, a

gentle Purge ought to be given, lest the noxious Humours secreted from the Blood being absorbed again into it, should cause a Relapse; notwithstanding it is sometimes requisite to deser the purging until the 17th Day.

From repeated Trials, I affirm, that nothing does so certainly and powerfully cool the Body as Purging after Bleeding; and any one may find it in Experience true, that it abates and allays a Fever beyond any Remedies whatever, both as it cleanses the Intestines, and prepares the Way for an Anotheria.

Sydenbam in his Schedula Monitoria.

The Cause of a Fever, according to Hippocrates, De Medic. Vet. is not Heat alone, but Heat

and Bitterness together, Heat and Acidity,
Heat and Saltness, and an innumerable other

known by Experience, that Persons from sound and persect Health, where there has been neither Plethora, nor any ill Habit of Body to cause it, have fallen into a Fever; because some very extraordinary Change in the Air, or an Abuse in some of the rest of the Non-naturals have happen'd; therefore sound Bodies on such Occasions may, and are seized with a Fever, in order that their Blood

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Blood may acquire a new State and Condition to accommodate itself thereby to the Alteration of the Air, and the Way of Living,

By how much the more acute a Fever is, by so much the more Diet of sparing and slender the Diet ought to be; for in Fevers, tho' they lie many Days without eating any thing, it is so much the better, for no one ever starv'd to Death in a Fever; but rather upon eating and drinking the Fever would be exasperated; because in taking of Food, the Appetite prescribes the Rule, the Quantity, the Quality, and the Time.

The most natural and general Division of Division of Fevers is into Essential Fevers.

and Symptomatick.

An effential Fever is such, whose primary Cause lies in the Blood itself, which derives its Original from no other Distemper of the solid Parts of the Body, or is any way depending on them, and this is properly called a Fever.

A symptomatick Fever is a secondary Fever, which does not properly subsist of itself, but owes its Original to the Disorder of some particular solid Part, and most commonly depends on some remarkable Instammation, from whence the Variety of instammatory Fevers so called.

An essential Fever is divided into a Diary or Ephemera, a continual, continent or re-

mitting, and an intermittent Fever.

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A Diary or Ephemera, so called by the Greeks, is the least compound of Continual Fevers, which doth begin, increase, arrive at its Height, and decline within the Space of 24 Hours: It is occasion d by the scorching Heat of the Sun, too much Exercise, or by some other Error committed in the Nonnaturals. The Cure is easily perform d by Abstinence, Rest, and Diluting. But if the said Fever lasts several Days, it is called a continual, not putrid Fever: Its Causes, Signs, and Cure, are the same, and chiefly require large Bleeding, and a cooling Diet and Medicines.

A continual putrid Fever, call'd A putrid Fever what. by the Greeks, Synochos, is that Sort of Fever which is continual, without any distinct Paroxysms or Remissions, but for many Days continues much the same, until it has run its full Length, and then its Period is determin'd; and it is distinguished from the preceding, by its being \* putrid: of this Kind are malignant Fevers, pestilential Fevers, and even the Plague itself.

The Causes. It proceeds from the following Causes, as slight Inflammations, an Obstruction of the Bowels, a Constriction of the

A Fever is said to be putrid, where the Humours or Part of them have so little circulatory Motion, that they sall into an intestine one and putrify, as is commonly the Case after great Evacuations, or great and excessive Heat, where there is such a Scarcity of Spirits, that the Solids cannot sufficiently vibrate.

Ch. I. thro' the various Stages of Life. 339 the Pores of the Skin, a Stoppage of almost all the capillary Vessels, and a very sharp Acri-

It is known by an intense Heat door even to the Touch of the Finger or Diagnosti.k Hand, by a Pulse not only feverish,

but at the same time unequal and inordinate; a thick, red, turbid Urine, and crude without any Sediment; from a hot and fanguine

Constitution, Age and Complexion.

This Diftemper is more dangerous and mortal, as the Pulse is weaker, Prognofick quicker, more unequal in Strength, more irregular as to Time, and more intermitting in its Srokes; as Breathing is more difficult, frequent, short, with a great Motion of the Nostrils, the more painful about the Vitals, and the more inordinate in its Time; as Weariness and Weakness are greater, the Toffing of the Body more frequent; as the Urine is higher colour'd, thicker, muddier, with the least Sediment; or as the same is thinner, more watry, more sparing, and difficultly retained; as the Patient trembles and shakes more, chiefly in his Hands and Lips, shy of being felt, plays with his Fingers and Hands, and as it were catches at Flies, or some Things he fancies to see upon the Bed-clothes, and about him; and as his Eyes appear more forrowful and moist with involuntary Tears. Moreover, when the Patient labours much in his Sleep, and wakes worse after it; when either livid or purple Y 2

Spots

340 A GUIDE to HEALTH Part III, Spots appear upon the Body, the Sides of the Belly stiff and blown up, then Death is at hand.

Continual putrid Fevers commonly require Bleeding in the Beginning, according to the Strength and Constitution of the Patient; but Malignant and Intermitting Fevers seldom admit of it: And in the Progress of all Fevers, when they draw near the Height, Bleeding is prejudicial, according to the unanimous Opinion of the Antients: For Calius Aurelianus, Celsus, and the rest, allowed Bleeding only in the first three Days of a Fever, and not after; but there is no general Rule without an Exception.

As for the Cure of the Symptoms, or rather the Mitigation of them, which are more than ordinary pressing, they shall be accounted for in another Place, where I shall treat of the Symptoms of Fevers in general: But here I must observe, that, in a putrid Fever the Patient ought to dilute plentifully with subacid Liquors, and take such Medicines as resist Putrefaction, such as the Juice of Lemons and Salt of Wormwood made up into

Draughts, or Mixtures, &c.

A continent or remitting Fever, or remit-called by the Greeks, Synechos, is in ting Fever. fact a continual Fever in regard to its Duration, tho' not in Degree: For it continues many Days together without Intermission; but then it has its periodical Returns of Exasperation and Remission, either every Day, or

ch. I. thro' the various Stages of Life. 341 every other Day, but no thorough Intermiffion; nor has it any cold Shiverings, after the manner of Agues or Intermittents. About the End of every Paroxysm, when the Violence of the Fever begins to remit, Sweats generally ensue, and the Urine, which during the Height of the Fit was intensely high-colour'd, in these Intervals of Remission usually deposits a laudable Sediment, which is the true Characteristick of a continent or simple remitting Fever.

There is likewise a spurious of the Spurious

Kind of remitting Fever, which is attended with outrageous Symptoms of the nervous Kind, imitating Rheumatisms, Pleurises, Colicks, and other inflammatory or spasmodick Distempers: It also often affects the glandulous Parts, producing from thence manifold Excretions, causing Vomitings, Cholera Morbus, Diarrhæa, Bloody-flux, &c. which greatly obscure the fundamental Signs of this Fever, rendering the Paroxysms or Fits uncertain as to their Access and Duration: For by how much more the Evacuations and Pains, now mention'd, are augmented, by so much the febrile Heat is diminish'd and the Pulse weaken'd, and vice versa.

A simple remitting Fever, as such, Prognostick. and as long as it remains such, is very seldom, if ever, mortal; for before it becomes satal it changes its Type and Kind, and degenerates into a continual malignant Fever. But the spurious Kind, tho' it is not in its

own

own Nature mortal, yet on the Account of the violent Symptoms accompanying it, it pretty frequently proves fo. The more regular the Fits are in point of Time, and the longer the Remissions are, the less dangerous they are, and vice versa.

The Evacuations which Nature makes in these Fevers seldom procure any Benefit, they being for the most part symptomatical. But the critical and falutary Evacuations are dither by Sweats or Spitting; the first is the quickest, tho' the latter is equally certain, yet flow and troublesome. During the Increase of the Distemper, it is a bad Sign if the Urine gradually changes thin and pale, and the Pulse becomes quicker, weak, and staggering, &c. On the contrary, a strong and constant Pulse, Urine much tinctured with Redness, and full of Settlement, particularly when there is a laudable Sediment, and the Distemper is come to the State or Height, they are good Signs.

The Cure. A simple remitting Fever gives way to the Bark, as certainly as an intermitting one: For the severith Ferment in both is almost the same. The Efficacy of the same Medicine in curing a spurious remitting Fever, is almost as certain as in a simple one, provided it be rightly administer'd, Regard being had to the more violent Symptoms; but it has not so quick an Effect, because the Distemper is greater and stronger, and therefore requires a greater Quantity of the

Ch. I. thro' the various Stages of Life. 343 the Medicine: So that the radical Cure of these Fevers consists in the regular giving and Repetition of the Peruvian Bark, with due Regard to a proper Diet in all such Diseases.

It will be necessary, in order to establish a rational Method of Cure of continual Fevers, to have Regard to to burning and the Division of them into burning flow Fevers.
and flow Fevers; because the Method of treating each of these is vastly different.

### Of a Burning Fever.

In a Burning Fever the Person is The chief affected with a most ardent Heat, a Symptoms, Dryness of the whole Skin, of the Nostrils, Ears, Mouth, and Tongue: Respiration is thick, difficult, and quick; the Tongue dry, yellow, black rough, and burnt up; Thirst unquenchable, sometimes going off fuddenly without any other good Sign; an Aversion from all Sorts of Aliment; a Naufeating, Vomiting, Anguish, Uneasiness, a great Weariness, a little Cough, a hollow Voice, a Delirium, Phrensy, obstinate Wakefulness, Dozing, Convulsions; and on the odd Days a renewing and increase of the Fever.

A Burning Fever very often kills on the third or fourth Day; it seldom ficks. gets over the seventh, if it be a perfect Causus: It often goes off with an Hamor-rhage, which if but small and sparing on the third or fourth Day, the Fever commonly proves mortal: This may be foretold from Y 4

344 A GUIDE TO HEALTH ON PAR III. the Patient's complaining of a Pain in the Neck, Heaviness of the Temples Dininess of the Sight, a Working and Labouring of the Heart and Lungs without any Sense of Pain, involuntary Tears, without any other fatal Signs, Redness of the Face, and Itching of the Nostrils; but if it happens on a critical Day, it is most advantageous. A Solution of this Fever also on a critical Day, may be expected by Vomiting, Loofeness, Sweating, much Urine, spitting thick Phlegm; but growing worse on the second or fourth Day is a very bad Sign, on the fixth not fo bad: Black Urine, thin and small in Quantity, is mortal; spitting of Blood and bloody Urine, are mortal; a Difficulty of swallowing is a bad Sign; nothing worfe than Coldness of the extreme Parts; the Face red and fiveaty, is bad; a Swelling behind the Ears and not ripening, is mortal; the Belly too loofe, fatal; a Trembling turning to a Delirium, ends in Death. This Fever often changes to an Inflammation of the Lungs, with a Delirium attending it.

Regimen. keeping the Air of the Room pure and cool, untainted with Fire, or Smoke, or the Breaths of many People; and they ought to have no more Bed-cloaths than barely defends them from Cold; their Curtains ought to be kept open, so as to renew the Air; and their Posture in lying as erect as they can well bear.

Their

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Their Drink should be cool, mild, sub-acid, tepid, given in moderate Quantities, and often, as Water with Juice of Lemon or Tamarinds. Their Aliment out to be light, of mealy Vegetables, as Water gruel, Preparations of Barley, with some Juice of Lemon; Rice boil'd in Whey and strain'd; roasted Apples in the Progress of the Disease; a little toasted Bread sometimes, with Rhenish Wine and Water; Jelly of Currants; Broaths and Jellies made of Animal Substances, and qualified with Juice of Lemon or some other Acid, may be sometimes allowed.

Bleeding is requisite in the Be-

ginning of the Distemper, if there be the Signs of a Plethora, or of a particular Inflammation, or that the Heat is intolerable, the Sweat too great, a Revultion be necessary, the Symptoms very urgent, and hardly to be master'd by any other Means; in these Cases Bleeding is of an absolute Necessity. Sometimes also gentle and cooling Clysters are to be given, as often as the Pleat of the Distemper or Costiveness shall require them. Distemper will likewise be proper, and Nitrous Medicines, and such as very gently loosen the Belly.

Here it will not be improper to take particular Notice of what Walfebridius fays, viz. A malignant Fever often in the Beginning appears in the Shape of a Caufus or burning Fever; so that a Physician ought to be cautious left he should fall into a Mistake about it; therefore

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1346 A GUIDE to HEALTH Part III. let him be diligent to inform himself, whether the Patient complains of an Anxiety or Uneasiness at his Heart, a sudden Loss of Strength, and other grievous Symptoms: Let him also examine the Urine, &c. for the Cure of these Fevers is very different.

A Calenture is a Fever peculiar to Mariners, of a high inflammatory Nature. Those that are seiz'd with this Distemper are affected with a peculiar Sort of Delirium; for they frequently say they will walk into the green Fields, which they always seem to have in View, thinking they are just going into them, and, unless they are kept by Force, they jump into the Sea; and that is an inseparable Sign of this Distemper. Young lusty Men, of a sanguine Complexion, are most subject to it. The Cure chiefly consists in plentiful bleeding and diluting.

## Of Slow Fevers.

Slow Fevers, tho' they are not so acute as the Burning or Putrid Fevers, yet they are however continual, as they constantly afflict the Patient labouring under them; but they pass through their several Stages more slowly, for which reason they are of a longer Continuance, and the Symptoms not so violent.

In the Class of Slow Fevers we Fevers. may justly reckon Catarrhal Fewers, which in the Beginning and Increase are attended with a Catarrh, a Runing at the Nose, a Cough, Hoarseness, &c.

These Fevers are for the most part gentle and slow in the Day-time, and commonly somewhat worse in the Evening: They are also attended with great Weariness of the Limbs, and the Symptoms continue, with an Increase of the Running at the Nose and Cough, till the Distemper rises to its highest Pitch, when the Matter of the Catarrh is ripen'd, and the Mucus becoming thicker, is discharged, and the Fever goes off. The Seat of this Disease is in the Conglobate Glands +, more particularly occasioned by some Obstructions in the Pituitous Glands.

A Decoction of Sassafras, with Liquorish-root and Raisins, is very proper in Catarrhal Fevers, on account of the Acrimony of the Humours; likewise the Juice of Turnips, with a little Sugar; Volatiles and gentle Sudorisicks; a Solution of Gum Arabick, and whatever besides is proper in Coughs and Hoarsenesses, will be likewise useful in this Case.

Besides the fore-mentioned, there Lymphatick are likewise Lymphatick or Pituitous Fevers, occasioned by the Fault of the
Pituita

† A Conglobate Gland is a little smooth Body or Kernel, wrapp'd up in a fine Skin, by which it is separated from all the other Parts, only admitting an Artery and Nerve to pass in, and giving Way to a Vein and excretory Canal to come out. Of this Sort are the Glands in the Brain, as the Pituitous Gland, the Pinealis Gland, the Glands of the Mejentery, Groin, Testes, and Labia: All the rest of the Glands in the Body are called conglomerated Glands, being composed of many conglobate Glands, tied together and wrapp'd up in one common Membrane.

Pituita of the Conglomerate Glands, which discharge their Juice into some certain Cavity, of which the Parotid Glands and the Pancreas are remarkable, discharging the Liquors separated into the Month and Intestines, and consequently into the Mass of Blood; which Humours, when vitiated, become viscid, salt, and sharp, produce these Fevers, which are likewise sometimes not improperly call'd Scorbutick Fevers. Continual Acute Fevers, and sometimes Intermittents, degenerate into these Slow Fevers, and sometimes into Hesticks; and the Original of these Fevers is most commonly in the Stomach, proceeding from Indigestion and Crudities.

Therefore a gentle Vomit, as well in the Beginning as in the Increase of these Slow Fevers, ought to pave the Way for the Cure; and afterwards the Viscidity and Acrimony to be corrected; and the Symptoms are to be mitigated, and the Stomach to be strengthen'd, &c. for which Purpose vitriolated Tartar, Testaceous Powder, Diaphoreticks, and Volatile Salts, &c. are proper.

Of Intermitting Fevers.

An Intermitting Fever is a præternatural Heat, kindled in the Blood by an unufual Expansion of the Spirits, returning at certain Periods. In this kind of Fever a Chilness, Shivering, Heat, and Sweats fuccessively follow one another. The Fit is attended with an universal Sickness, Nauseousness,

Ch. I. thro' the various Stages of Life. 349 ouinels, and Vomiting; Pain of the Head, Loins, &c. The Paroxyim or Fit is very acute, but the Distemper in itself generally more or less chronical.

A fimple Intermitting Fever is easily known, for it discovers itself of its own Accord; and how great a Variety soever there may be of them, let them be either Quotidians, Tertians, Quartans, &c. the morbifick Ferment of all is the same, which certainly yields to the Force of the Peruvian Bark, if duly and skillfully administer'd.

The common Species of Intermitting Fevers are simple Quotidians, Tertians, and Quartans; double Quotidians, Tertians, and Quartans; half Tertians, half Quartans, &c. There are likewise Intermitting Fevers which return

every fifth, fixth, or feventh Day.

Intermitting Fevers in this Country are fometimes very obstinate, often returning in spite of all Remedies; and by long Continuance they degenerate into Hepatical Fevers, and many chronical Distempers, as Jaundice, Drops, Schirrus's, and Scurvies; therefore in this Disease a right Method, both of Medicines and Diet, is very necessary.

We should begin the Cure with a Vomit, or Purge, according to the Strength, Age, and Condition of the Patient, and afterwards administer the Bark often between the Fits, in good large Doses; but if the Patient's Strength and present Case will not allow of a Vomit or Purge, then the Bark should be

given,

given, without any previous Preparation at all; and there is a different Regimen to be used during the Continuance and Absence of the Paroxysm, and in the Paroxysm itself, during the Rigor or cold Fit, the Heat and the Sweat.

During the Rigon nothing is more proper than a Draught of warm Water, with a little Rhenish Wine, or Juice of Lemon and Sugar, which dilutes and relaxes at the same Time, and will make the Symptoms wholly abate, and terminate the cold Fit sooner, and throw the Patient into a Sweat, than the warmest Cordial. In this Case likewise strong Frictions of the Extremities relieve very much: Proper Care must be taken to shorten the Period as much as possible, and by warm Diluents a little acidulated, to bring on the Sweat soon, but not to push it beyond its due Measure; because an Intermitting Fever of itself relaxes and weakens the Body extremely.

Between the Fits too great Abstinence is hurtful, as much as too great Repletion. As Intermitting Fevers are often of long Continuace, extreme Abstinence is impracticable, and would reduce the Patient to a Condition not to be able to sustain the Shock of the

next Attack.

Between the Fits, such Substances as temper, correct and subdue the bilious Alkali, as acid Substances, nitrous Salts, small thin Wines, Chicken-Broth with Juice of Lemon, Wine with Bitters infus'd, are proper.

Ex-

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Exercise, to as great a Degree as the Patient can bear, is extremely beneficial between the Fits. Bleeding in Intermitting Fevers feldom does any Good, but oftentimes a great deal of Harm; yet the Patient's Condition is to be confidered in this Cafe.

But there are fourious Intermitting Fevers, as was observ'd of Remittents: Their Symptoms are fometimes very urgent and violent, and their fundamental Signs are difguifed under the Appearance of some other Disternper, as Vomiting, Diarrhaa, and some great Pain, &c. The true and genuine Sign of the real primary Distemper being chiefly known by the Exasperation and Remission of those violent Symptoms, and by the Urine of a Brick-dust Colour; but these spurious or illegitimate Intermittents creating a great Variety of direful Symptoms, fuch as enormous Vomitings, Griping, Loofeness, Cholera Morbus, Colicks, Pains in the Side like pleuritick Pains, Apoplexies, Pains on one Side of the Head, Spains or Cramps, nephritick Pains, &c.

Notwithstanding the great Vaders, in their manifold Shapes and Forms, yet they all depend upon one and the fame Ferment, and are certainly cured with that one sovereign Antidote the Peruvian Bark, if prudently administer'd, as well as any other

Intermitting Fever.

Proposition of the Spirits.

No one has been known to die of an Intermitting Fever, except it be in the cold Fit, that Excels of Coldness arising from a Viscidity in the Blood, and an absolute Oppression of the Spirits.

The proximate Cause of Ininto the whole History of Intertermitting termitting Fevers, the proximate Cause is assign'd to be the Viscosity of the arterial Liquid, there happening at the same Time some Cause or other for a quicker and stronger Contraction of the Heart, and a Dissolution of the stagnating Viscointies. Boerhaave.

Having thus far treated of Benign Fevers, I shall now proceed to give the Reader a fuc-

### Of Malignant Fevers.

The first Sign of a Malignant Fever, is a remarkable Loss of Strength on a sudden, without any manifest Cause, with a weak Pulse: The external Heat is not so violent as in some other Fevers, the internal Heat is rather greater. It is attended from the very Beginning with obstinate Watchings, and anxious Uneasiness: The Sick complains and shews the Region of the Stomach, or the Heart; the Urine is not unlike that of a Person in Health; the Countenance looks hideous sometimes, and much changed from the natural State, sometimes of a livid Colour.

Reason why the severish Heat and Ebulli-

Ebullition in these Fevers, is not so great as in other Fevers, is entirely owing to the Malignity which has feiz'd the Blood; and is rather a Sign of fome great Diforder of the Spirits, which are greatly affected, and as it were fpbacelated or deaden'd, than of any Diffurbance in the Humours por it may be fornetimes the faid Diforders may be propagated into the Humours, especially the Blood, from the malignant Taints; from which arifes great Confusion, and an inordinate intestine Motion, which indeed produce an internal Heat, but is not carried fo fenfibly to the external Parts. By this means Nature being, as it were, oppress'd, is not able to exert these Symptoms more regularly, which are agreeable to, and might attend the Dif-Symptom when they employ dielt Hand olas

There is a great Variety of Malignant Fovers, on account of the Diversity of their Symptoms: In some there are very remarkable cutaneous Efflorescencies; in some more abundantly, in others less; and in some no such Appearances at all; others, in sine, are attended with other kind of Symptoms.

Some affert, from microscopical Observations, that in all malignant Fevers and gangrenous Ulcers, there is so great a Pursessetion of the Blood, that it gives Occasion for the Generation of a Multitude of little Worms, from whence they believe the great Variety of Symptoms so vexations do srife; but these Worms cannot be bred without a preceding Phitefaction; and the Blood in Malignant Revers a preternaturally fluid, information that when it is let out of the Body itswill not cotegulate as usually; but this is the Product of the Difference, and not the Caufe.

The very naming a Malignant The Logo Fever firikes a Terror into Mankind; because all Malignant Fevers are very dengerous, and as to the Event very uncertain; which made Galen affect that Mulighund Fevers will not admit of a Recognifich. Deafnels in the Beginning portends the greatest Danger, but in the Height of the Diftemper It is a favourable Symptom; but bleeding at the Note and a Looseness through the whole Course of the Diftemper, servery bad Signs: And it is almost always reckon day wery bad Symptom when they employ their Hands as if they were catching Plies, or picking up Straws or Bits of Threads. If on or about the eleventh Day Buboes arise in the Groin, it betokens well, and terminates the Fevery de last la

Malignant Fevers by no Means actording admit of Bleeding; for the more of Ethicker malignant they are, the more Milamber chief it would do, and the farther from the Beginning the worle. Vomits in the very Beginning of the Diftemper ore above all Things exceedingly proper, but then they should be given before any cutatheous Eruptions appear, otherwise the Opportunity is lost; and afterwards the Care is to be endeavoured by Medicines, and Sub-

Oh. I. 9 thre the portious Stages of Life. 355 Substances that procure Sweating. Nature beriefs teaching us to much; for frequently Sweating carries off the Cause and Pewel of

the Distemper.

The greater the Malignity is, the more Sudorificks, or sweating Medicines, are to be employed, regard being always had to the Nature of the Distemper, and its Diversity, as also the Strength of the Patient. Sudorificks are to be given at least three or four Times in twenty four Hours: Analepticks Times in twenty four Hours; Analepticks and moderate Acids are to be used in the in-termediate Times, amongst which duscify d Spirit of Nitre is very good; also Tincture of Saffron extracted with sweet Spirit of Natre; likewise the Juice of Citrons and Quinces, every Body cannot bear the Use of it, especially some Women, and studious Men, whose enimal Spirits are easily moved and diffipated.
Blishers are of lingular Use in the State of
Height of the Diffemper. The volatile Salts and could Malignity; and here the Mistura Simplex of Paracelsus takes Place, as well as in all pastilential Feyers, being a very noble Remedy. Its Dose is from one Dram to two to be given once in fix or eight Hours,

n a proper Vehicle.
Notwithstanding Bleeding in this Disease has been, and is accounted dangerous by a great many Practitioners, it only proves for when it is triflingly performed; for it a large Z 2

A GUIDE to HEALTH Part III. Quantity of Blood be taken away in the very Beginning, it secures the Party from Danger. But Bleeding had better been quite omitted. than not to be performed to a large Quantity, even almost to Fainting; and to prevent Fainting the Patient ought to be let Blood in his Bed. It is to be midded, that where there is a Plethora, or the Patient is of a firong Conflitution, more Blood may be taken away than in a weakly or a phlegmatick Con-Stitution. After a sufficient Evacuation by Bleeding, plentiful Sweating must be procured by proper Medicines and Drinks, fuch as Venice Treacle, Mithridate, Dinfcordium, London Treacle, Campbire, Lapis Contraverva. Pulvis ad Guttetam, Sir Walter Ralligb's Confection, Treacle-water, Plague-water, Castor, Saffron, Cochineal, &c. Of these and the like many excellent Sweats may be fram'd into either Bolus's, Draughts, or Mixtures, interlac'd with nitrous Medicines and Acids. according to the Exigency of the Cafe. When Spots appear, neither Bleeding, Vomiting, nor even Glysters are to be administered, but Sudorificks and Blifters.

If the Blood tends to a Dissolution, sweating Medicines and spirituous Cordials are very improper; but Emulsions, acidulated Drinks, and the like, with Bezoarticks, Nitre, and gentle astringing Remedies, in order to reduce the Humours to their natural Texture and Firmnels. Their common Drink ought to

of Cure are here renumed as were memioned

Synd

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to be acidulated with Juice of Lemon, Spirit
of Sulphun Elixis of Vitriol, &

lignant one, in which, besides the of a spond.
Symptoms common to other malignant Revers, there is a very remarkable.
Weariness of the whole Body, an universal throbbing and pticking Pain: The Spots appear sometimes the fourth Day, but oftener about the seventh, especially on the Breast and Shoulder-blades, then on the Belly, Legs, Arms, and Neck, seldom in the Face. Not only Spots, but likewise large Marks, black and blue, sometimes appear; and in the Declension of the Distemper sometimes a Spitting comes on, which carries it off.

The Spots in the milder Sorts of Prognosticks. this Fever are florid and very red, like Flea-bites: Afterwards they grow pale, yellow, and so disappear: The more red they are, the better: On the contrary, those that are of a livid or pale red, or appear blackish, are the worst. If they strike in again, it foretells a great deal of Danger.

These Distempers are contaginated on the are out and sometimes epidemical or contagions. Spreading in They are very danger out of those that are seiz'd with it, more die than recover.

Spotted Fevers being a Species of The Care.
the Malignant, the same Indications
of Cure are here required as were mentioned
Z 3 above

above for the Cute of trialignant Pevers in general. If the Spots strike in too soon Vehicatories are to be employ do upon which thou we are not to expect the Spots to appear again, yet in some Measure the Blistering answers the End of those not appearing and fornetimes very happily prevents the directal Symptoms in the nervous System. No Exacuation of the Bowels shuft be attempted, such as Vomiting of Purging, of even by Chysters, as long as there is any Appearance of the Spots.



## CHAP II.

Of the Cure of the most urgent Symptoms

which happen in the Beginning of acute Fevers, are dwing to a Diminution of the Contraction of the Heart, the Circulation then being less quick, and the Blood actually stagnating in the extreme Parts, and pressing upon the Heart, creates great Anxieties, and may produce polypose Concretions about the Heart, and in other Parts of the Body; therefore a Rigor or Coldness encleases in Inflammation. Those who die of Quartan Fevers.

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Chi H. thre the various Stages of Life. 350

Revers, die in the cold Fit, and in truth, there is no Michief but what may proceed the relation for if it respects and therefore the greater and longer fuch. Coldness is, the more dangerous is the Revers. To such Rigor of Coldness, all warm Conducts and timpulating Subffances are improper, that he first acting with Force upon the right verticle of the Heart, may drive the Blood with too much Force who the Lungs; and the With too much Force who the Lungs; and the Vestels, often increase Symptoms, which are Vestels, often increase Symptoms, which are best relieved by drinking warm Water with a little Rhenish-Wine, wherein a little Nitre. a little Rhenish-Wine, wherein a little Nitre is diffaired, likewise, strong Frictions of the extreme Parts are very uleful in this Care See farther in the Cure of intermitting Fe

The Degree of feverish Heat may be known by the Thermoscope, the Hear.

Sensation of the Patient, the Intenseness of the red Colour of the Urine, the Sizinels of the Blood, the Diffipation of the Sizinels of the Blood, the Diffipation of the fluid Parts, which renders it thicker; the Hardness, Strength, and Frequency of the Hardness, Strength, and Frequency of the Pulse, which makes the Friction of Rubbing the stronger, to which the Heat is proportional, the bad Disposition of the Humours, the Temperament of the Body.

This Heat is moderated by Bleed.

This Heat is moderated by Bleed.

The Care.

Tate Lagatures, which compress the Veins rate Lagatures, which compress the Veins.

160 A Gyrde W Ment on Part 10. only, and often remove from foint to foing by a methanical Realon retard the Oiceula tion of flich Sort is dry Cupping Buthisis the lower Parts, watery Lieuors for Danie, not cold but warm, fubacid, as Jelly of Currants diffolv'd in tepid watery Liquors De coctions of mealy Substances acidalated, Substances that are Anodyne, Substances which dissolve Concretions, fuch as Sugar, Honey, and the simple Oxymet; plentiful diluting, and reftoring as much Water to the Blood, as is diffipated by the Heat; all demulcent and relaxing Substances, cooling the Air in the Room, opening the Curtains, and removing too heavy Bed-cloaths. All stimulating and Ryptick Substances are to be avoided; because they increase the Force of the folid Parts. Lenient Glysters and Emulsions are also useful to mitigate such an excessive Heat.

But great Care is to be taken left by cooling too much, the Spirits should receive a sudden Damp, and by that means be deprived of their Elasticity, whereby the burning Fever might unwarily be changed into a malignant one, which has been many

a time the Cale.

In Thirst attending Fevers, the Liquors should not be drank quite cold; for cold Liquors by constringing the Glands of the Palate and Throat, do not quench Thirst so well as Liquors moderately warm: In this Case acidulated small Liquors should be plentifully drank, All Salts increase

create of hind, reverent Nitre mand adultify'd Spirit of Nitre emixed with Water nor a the Rations's norman Drink his useful in this Case of the Stomach in such Case Water and Emultions except in great Weakness and Flatuleness of the Stomach in such Case Water mix'd with a small Quantity of Rhemish Wine is bell of all the stomach and state of a state o

In these Anxieties which attend Fevers, when the cold Fit is four in over, in such a Case a warmer Regimen may be allow'd; because Anxieties in Fevers often happen by Spasses, or Convulsions from Wind, therefore Spices are useful. And in those Anxieties, saponaceous Substances which dissolve the Blood are proper, as ripe Fruit, and especially Honey, Sugar, 650.

Sickness and Vomiting may be sickness and sowing to an original Surfeit, and is Pomiting one of the most troublesome Symptoms attending Fevers; because it renders the Patient incapable of taking any thing. It is often prevented by giving a gentle Vomit, or cur'd by promoting the Vomiting for a while by warm Water, or thin Chicken Broth; for which Purpose likewise Carduus Teadrank in large Draughts may do very well; but if it does not of itself succeed well, half a Dram of Saktof Vitriol, or a Spoonful of Oxymel of Squills, may be given with the Posset.

During

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During the Symptonic and Liquers, and even fuch as are suffere and afringent, are to be used; because fuch strongenen the sellated Fibres of the Stomach; for which Purpose the following Julian is very affectual.

Take of Salt of Wormwood 4 Scruptes, of fresh Juice of Lemon, 2 Ounces, mix, and when Boullitton is over, add to it of Barley Chinamon Water, 3 oz. of Mint-Water and Nephritick Water, each t Ounce; Spirit of Saffrong Half an Ounce; Syrup of Quinces, 1 Oditice; this for a Julap, of which let the Patient take 2 or 3 Spoonfuls every 3 Hours, or oftner.

Diluting, and sometimes relaxing the Belly, and carrying the billions Salts downwards, often cures this Symptom. And Attention is to be given to the Appetites of Patients in this and many other Cases, who sometimes to salt, Vinegar, Sta.

Vomiting from a bilious Cause is cured by acidulated final! Liquors; and vomiting from some partrid Cause, by Sales of all Sorts; and in fach a Case, Water-Gruel with Cream of Torror, Rhenish Wine with Water, Jelly of Outranes, Marmalade of Quinces, Sortel build in Broths well skimmed from Fat, are exceeding beneficial.

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philegenetical Cause, Splice and Bitters with relieve; for the Counterpoison that bendants out to the Gaula: As fan Ruenple, in Peisan from feblinate Corrosole and Ansini la the first, alkaline Substances are properest; in the feebad, why Substances are propered in the feebad, who had not be different to judge of the Cause by what the Partient throws of from the Substances.

fafely or properly given; must be a Courier in fafely or properly given; must be growing construction of the Stomach or Lungs, a Vomit is

extremely dangerous putto a Continue of T

A Diarries or Loofeness some proves often a dangerous and fatal Symptom pland this Evacuation is and the gendine Motion of Nature for its Relief, but arifes father from the Impetuoity and Vice ience of the Diftemper, brothe Aimpliside Acrimony of the Humours, which in reality is a symptomatical Diarrban, and cought to be fropt, for it weakens, exdonates, and inflames the Bowels, occasioning bloody Flancis, thickening the circulating Juices, and exhausting the Strength of the Pitients very much, lieweber, a critical Diarrhuse is mot to be Robt, for feat of incurring the fame Pangers, and all Maria de gling dated gribosophs a Solution of Sparma Chri: 116 a

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Attention should be given to the Cause! If it proceeds from Acidity, it is to be cared by Anti-acids; but is in Fevers the Cause is more commonly alkaline and bilious, acid or soft things relieve best; and it happens sometimes, that oily Substances by blunting the Acrimony will do a great deal of good in Diarrheas; for oily Substances of themselves do not irritate or provoke Loosenesses, they only lubricate or make the Bowels slippery. Vomiting, by evacuating the irritating Cause, often cures Diarrheas.

Anodyne Substances are proper, and generally speaking, solid and dry Food rather than liquid.

The white Decoction of burnt Hartstorn is very proper for common Drink, and absorbent testaceous Powders mix'd with Diaphos reticks, are likewise very useful in the Case; and lastly, we may have Recourse to Venice Treasle, Diascordium, &c. But it is observable in general, that Laxness of the Body in the Beginning of Fevers is better than over Costiveness, but in the Progress of the Distemper it is worse.

A Dysuria or Strangury in Festiva vers is very troublesome. The comming record in Federal were in Federal were in Federal work in Federal were in Federal work in Federal work

Ch. II. three the various Stages of Life. 365 of Ounce of Gam Arabickein a Quart of Barley-Water for common Drink, is an excellent Remedy copecially when this Symptom is occasion a by Blittering

Profuse Storats which happen in profuse settlers the Beginning of the Bolistone the Signs of Concochion appears are supposed to the Signs of Concochion appears are supposed to proceed from a Laxiby of the Vellets and too rehement a Circulation of the Blood, and ought therefore to be restrained by Art; for they are very troubles some to the Butient, and they exasperate the Distemper, in depriving the Blood of its most shull Parts, thicken and often cause Obstructions, so that it is a very bad Practice to push Sweating too much in Fevers, except in such as are pestilential.

In profuse Sweats, Care should be taken by diluting, to restore the Liquid which the Blood loses, and to use the Methods advised already in too great Heat, by taking away some of the Coverings of the Bed, and admitting of cool Air, and using a Dietamoderately astringent, and using a Dietamoderately astringent, and mild Acids, Scal Tinctura Antiphthisica, on Account of the Sugar of Lead in the Composition? Is esteem'd an efficacious Remaily for suppressing such Sweats; and likewish Sage is very good in the Case of prosuse Sweats.

cocatibus Spingtoin for little engle (VI of fureel) diamonds, with Hymn of Mark handlews, of a Solution of Sperma Centrality and a Solution of Sperma Centrality and a Solution of Sperma

Back, or in the Limbs, of pestaling in the beginning of determine requires Bleeding; and in that does not others, it will be proper to give a gentle Nount if the Stomach be foul, otherwise a leastive Glyber may suffice.

which is contained called a Gang Migil, and often precedes too great Algerinate, and is pathaps the most ill dorling System on of a firm the characteristic cooling and mortage by committed into the first and Daytela cooling and mortage ing things are to he administred; if Pain the the Caule, we must and authority of Fain the the Caule, we must and authority appears by proper Remedies avoiding Opietes, with much a should be always in the time of the Caule, when she Physician may perceive great Replainates and Inquietine in the Papients for it should be always remembered as a Maxim, that a Space of time before the Crisis happens, in the most troublesque, Morate Griss happens and the most troublesque, Morate Griss happens are the first troublesque, Morate Griss happens are the first troublesque, Morate Griss happens and the most troublesque, Morate Griss happens are the first troublesque, and troublesque, and troublesque, and

Care to keep the Patient from Noise, and ownatever makes any strong drappersion upon his Senies, and some of those Helps used in a Description, for this is on Approach towards it; a moist sufficiency Diet, all Proparations of Barley, Emulsions of Pappy Seeds and Alment of Lattecescent or milky Plants, especially Lettuces, Decoctions of

Scorzonera

Ch. II. through warious Stages of Life. 367
Scenamers Roots, Almond Cream, and what
it called Winter-Flummery, uled as Aliment;
Transpade of Cowlin Flowers, relaxing gently the Belly. 100, 200, 300, 31 ons, 200, 361

could contrary to the fore-mentioned Symptom Wakefulness; the Patient has a continual Propensity to doze or sleep, sometimes with a real Sleep, and often without it. A Come will proceed either from a Pressure upon the Original of the Nerves in the Brain, by too great Repletion; or from a Penury or Waste

of Spirits by too great Inapition. happroof

Old People are subject to Comas by the Glewiness of the Fluids circulating in the Brain, which being resolved by the Fever, obstruct the small Canals of the Brain; But in young People it commonly proceeds from Fulness, and is best cur'd by Bleeding and relaxing the Belly. The Sign of such a Fulness is, a red Countenance and instarned Eyes; but if it proceeds from a glutinous Oil, it ought to be resolved by Water, pitrous Salts, Soaps, Subacid Liquors, and Blisters, not forgetting the Use of sharp Glysters.

In a feverish Delirium there is a small Delirium Inflammation of the Begins therefore any thing which increases the Circulation in the Lower Parts, and diminishes the Pressure on the Brain, is beneficial; as bathing the Feet in warm Water; nothing relieves the Head more than the Riles, therefore suppositories of Honey, Aloes, and Rockasalt ought to be made

made use of; relaxing by emollient and watery Substances, both in Drink and Glysters, especially Barley, Cream, and Barley-gruel, are to be frequently used: Likewise Bleeding in the Foot, and Blisters will be of great Service in this Case.

### Of Convulsions in Fevers.

Nothing is of more Importance Compal than rightly to know the Cause and the form.

Seat of this Difference, which is commonly very obscure. In Infants Convulsions commonly proceed from Acidity in the Stomach and Intestines, which are cured by Absorbehts, such as testaceous Powders of all forts, and gentle Purges and Glysters; but in such indeed Convulsions attending Fevers are not altogether so dangerous.

Convulsions arising from Acrimony in the Stomach, or from any thing vellicating a Nerve in its Extremity, and not in its Original where it rises from the Brain, are not very dangerous; but Convulsions, which proceed from too great Evacuations, as great Hamorrhages attending Fevers, are very dan-

gerous, and frequently mortal.

Convulsions proceeding from an Inflammation of the Membranes of the Brain are commonly fatal: The Symptoms attending such are, a great Heat and Thirst, a hard Pulse, and a Delirium; so that the Remedies, and even those from Diet, are to be used according to the particular Seat of the Distemper; A Guide to Health Part III.

Ch. II. thra' the various Stages of Life. 369 for if it be from the Stomach, fuch Aliments as are contrary to the particular Acrimony, Acid, Alkaline, or Oily, impacted there, as in the Case of Vomiting, already described.

But if they arise from something obstructed in the Brain, such Convulsions are generally cur'd by Diluting, Relaxing, Revulsions, and softening both the Fluids and Solids, and using such Substances especially as open the Belly; and in general the Regimen prescribed in a Delirium or Coma: For it would be a Folly to rely here on the Medicines, which, by their pompous Titles of Anti-spasmodick and Anti-bystericks promise a specifick Cure; besides, all Volatiles, spicy and cordial Substances, are here destructive.

### Of Weakness in Fevers.

A feverish Weakness proceeds from too great Fulness in the Beginning, and too great Penury or Inanition in the latter End of the Distemper; for whatever stops or retards the Circulation of the Fluids in the smallest Vessels, especially those in the Brain, produces this Symptom, which either of the Causes now mentioned will certainly do: And those two Causes require a different Method of Cure; for in the first, emptying and diluting is requiste; in the latter, a more plentiful Nourishment, the Use of Wine diluted with Water, and Spices in small Quantities, Jellies, Broths qualified with fome gentle Acid, unless there be Signs of Acidity; but in that Cafe

Case the Diet should be contrary to that Symptom; in which Case Viper Broth, and all other Broths are both anti-acid and nourishing.

In Weakness from too great a Loss of Blood, Wine and Food which is easily digested and assimilated or converted into Blood, is proper; for a small Quantity of Blood oftentimes brings the Patient into a Dropsy. Frictions of the Limbs relieve Weaknesses, as they promote a Flux of Juices and Spirits in the Joints and Limbs, by which Means they will

bring Nourishment to those Parts: 2000 2000

Fat People are most subject to the Symptom of Weakness in Fevers; because the Fat, being melted by the Heat of the Fever, Part of it obstructs the small Canals or Vessels, and consequently produces this Symptom; which is evident from the great Loss of Fat such Persons sustain in Fevers, by the Laxity of the Fibres, and the Emptiness of the smaller Vessels; and therefore such should be treated with particular Care, for after due Evacuations they ought to dilute plentifully both by Drink and Glysters, avoiding all sat and oily Things, and using Sugar, Honey, and ripe Fruits.

### Of inflammatory Eruptions in Fevers.

In all these of any Kind whatever, as Small-Pox, Medzles, Purples, Scarlet-sever, Erysipelas, or St. Anthony's Fire, the Intention of Diet ought to be, to avoid strong Sudorisicks, or sweating Things, which push out too great a Quan-

Ch. II. thre' the various Stages of Life. 371.

a Quantity of the Matter upon the Skin; to use cooling and temperate Diluters, which will keep the Matter moveable, so that it may be secreted from the Blood; to keep warm during the Eruption; and that the Diet be cool; for which Reason the moderate Use of Acids, as Juice of Limons, &c. are necessary; and above all things Bleeding must not be omitted.

A due Attention to the few Rules abovementioned, in the feveral Symptoms, will prove successful in the Cure of most Fevers.

# compensation of the Small-pox.

Notwithstanding I have taken notice just now of Eruptive Fevers in general, yet as this is one of the most dangerous and universal that infests Mankind, I shall treat of it in this Place in particular. Therefore, the greatest and most important Steps for the Recovery of the Patient must be made at the Time of the Invasion, or first State of this Distemper; wherefore it is very necessary to know the first Symptoms of it; for many have suffer'd by mistaking it for another Disorder.

In general, young People who have not had the Disease, ought to be very careful in avoiding Irregularities in their Diet; because the Small-pax which seizes such Persons often proves satal. This Disease is likewise more dangerous as the Fluids are more heated and dissipated, and the Solids more

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Strict and compacted, and consequently it is

more fo, as People are advanced in Years. First The first Symptoms are a Chilness Stage and Rigor, succeeded by a Fever and constant Heat, a certain Splendor or Shining in the Eyes, with a little Moisture, which is very observable in Children; a great Pain in the Head, with Drowliness, Dullness, and Sleepiness; a Pain in the Back in some, but Pains in the Limbs in all; Anxiety, Inquietude notwithstanding their Drowsines; loathing Sickness at the Stomach, Vomiting, and Convulsions in Infants shortly before the Eruption; and the Blood taken away the first Time, florid; but on the second, third, and fourth Time it appears fizy, like that of pleuritick People.

Therefore it is manifest that in this State the Distemper ought to be treated as any other inflammatory Disease, by such Methods as if it were possible to hinder any Suppuration at all; and to resolve and digest as much of the severish Matter as possibly we can; for the longer the Eruption is a coming, and the sewer when it comes, the Disease is less dangerous; therefore all the Methods practised in the Beginning of inflammatory Distempers are here necessary and proper, with a particular Care of cleansing the alimentary Passage by Vomiting and Glysters, the Impurities of which will otherwise be carried into the Blood.

The learned Boerhaave says, that as there is not yet found any particular Antidote to the poisonous

Ch. II. thro' the various Stages of Life. 373 poisonous Quality of this Disease; but that if any such could be found, as he is of Opinion it may, it must be in Antimony and Mercury brought to a great Degree of Penetrability, without being too corrosive by a Saline Acrimony, but well united; for the Effects of Mercury on all Ulcerations are notorious.

In the first Stage then of the Small pox, the whole Habit of the Body ought to be relax'd both inwardly and outwardly, and a free Perspiration through the Pores of the Skin, without violent Sweats be promoted; the Viscidity or Glewiness of the Fluids taken off by Diluters: All these Things may be affected by Glyffers, Fomentations and Gargles, and a plentiful Use of Drinks often repeated, made of thin Water-gruel and other mealy Decoctions, and fuch like cooling Liquors, with nitrous and acid Salts, or some other acid Substances mix'd with them, such as the Juice of Oranges, Limons, Tamarinds, and other fubacid Fruits, &c. no Flesh to be allow'd, unless some small Chicken-broth at Times; the Air ought not to spoiled by Heat, or the Bed-Clothes fo thick and heavy as to produce great Sweats.

For more People are lost in the Small-pox, by being thrown into large and violent Sweats in the Beginning of the Eruption, than by any other Errors committed at all other Times: The Reason is, because great Sweats drain the small Blood-Vessels of the necessary Fluid, by which Circulation is hinder'd and the Blood

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374 A GUIDE to HEALTH Part III. coagulates, by which Means the Inflammation is hurried on into a Gangrene, without being able to furnish the necessary Work of Impostumation in the Glands of the Skin, or of being dissipated by other proper Means.

When this Difease has run off its first Second Stage, which is call'd by the learned itage. Boerhaave, that of Contagion, it enters into the fecond, in the following Manner: The Skin of the Head and Face first, then of the Hands and Arms, and laftly of the Body and lower Parts, are mark'd with little red Points like Flea-bites; thereupon the Symptoms abate, and the red Puftles increase every Hour in Largeness and Number; they continually rife higher and higher, inflame more, and the Skin is stretch'd; they begin to pain and to burn; the Circulation is interrupted, and Perspiration hinder'd; hence a great Return of the Humours towards the inward Parts; a Fever arises, with Anxieties, Difficulty of Breathing, a Pain in the Jaws, fometimes a Quinfy, a Loofeness, Bloody-flux, Bloody-urine, Spitting of Blood. The Parts of the Skin free from Puftles are red and inflamed, painful and hot; all which, or most of which, when they have lasted four, five, or fix Days, are now intirely suppurated, and converted into as many small Impostumes. And this is likewise call'd by the above-mentioned Author, the Stage of the Inflammation until the Suppuration: It lasts (according to the Difference of the epidemical Season, and that

Ch. II. thro' the various Stages of Life. 375 that of the Patient, the Greatness and Violence of each particular Case, and the Regimen hot or cold made use of) most times four or five Days; fo that the Suppuration is compleated about the eighth Day, reckoning from the first Beginning; and the Blood, if let out of a Vein, is extremely inflamed.

From what has been faid, the Diagnosticks and Prognosticks of the second State of the Small-pox may be learned, and the Rationale of it, and all its Symptoms, which will be plainer still by observing the following Rules.

1. The gentler the State of Contagion, that is, the first Stage, the easier likewise is the inflammatory State, which is the fecond Stage

of the Distemper.

2. The flower the Puftles break out, the longer therefore the State of Contagion, so the easier and milder is the whole Course of the

Disease through all its Stages.

3. The fewer, more distant, bigger, more remote from the Face, whiter and afterwards the yellower the Pustles are, and the later they appear, so much the better Event they promile.

4. The more in Quantity, more mix'd and intangled, the less in Bulk those that stand fingle, the more they appear upon the Face, tawny or black, and the quicker they grow,

fo much the worfe.

5. The more the Matter of the Pimples is like to kind and perfect Pus, the better.

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6. The more the Matter in the Pimples refembles a gungrenous Ichor, the worse.

7. The more the Space between the Pimples appears red, is hot, stretch'd, and swell'd about the Time of their impostumating, so much the greater Hopes, because it is a Sign of the Circulation's being preserved there.

8. But the more that same Space looks paler, or grows tawny or black, so much the worse; for there follows a mortal Quinsy or Peripneumony, unless a thin Salivation, or a great Swelling of the Hands or Feet doth ensue: The Reason is, because the Circulation of the Fluids is cut off in those Parts, and drove back and increased in the internal nobler Parts.

9. If in the Space between the Pimples there appear purple Spots, it is a fign that a mortal Gangrene is at hand or present.

The Indication in this second State of the Disease, is different according to the different Time that the Disease has lasted, and is like to last: for in the Beginning of the external Inflammation shewing itself, it appears reasonable to endeavour to prevent its proceeding to an Impostumation, as has been observed already; or, if that be neglected, Care ought to be taken that the Suppuration be as little as possible, and promoted slowly and far from the Head; which may be effected, first, by keeping the Patient to the thinnest Diet, which at the same time resists Putrefaction.

Secondly, by giving him diluting, soft and sub-acid

Ch. II. thro the various Stages of Life. 377 acid Drink. Thirdly, Medicines that prevent the making of much Pus or Matter, such as are opening and diluting, in great Quantities and often given; likewife Blifters applied to the Hollows of the Feet and Legs. Fourtbly. A cool Regimen, and chiefly by the Admiffion of pure and fresh Air, (as was observed in the first State) and at the same Time covering the Limbs and lower Parts of the Body warm. Fifthly, If the Distemper proceeds too violently on the fifth Night, a gentle Opiate may be fafely given to an Advantage, and repeated every Night to the End of the Disease, if the Lungs are not too much oppress'd, and Respiration very difficult.

After the running off of the Third Stage. fecond Stage follows the third State, being that of Impostumation, during which it increases and arrives at its Height: In this the Pustles, already purulent, grow larger every Day; then they ripen, turn white, yellow, and break on the third or fourth Day of this State. Then the whole Skin, and its subjacent Fat, abound with a moveable Pus or Matter; it is dried externally, and inflamed in every Part free from Matter or Pus: Hence, from the Impediment of Perspiration and Circulation, from the Irritation of the membranous and nervous System, from the absorbing of the Pus into the Veins, there comes on a Fever of the worst Kind, with the worst Symptoms; and if this purupurnlent Matter mix'd with the Blood is moved long, it putrefies: Hence, according to its falling upon different Parts of the Body, it produces cruel and scarce superable Effects, such as Deliriums, Phrenses, Quinsies, Perippeumonies, Pleurisies, Vomitings, Bloodyfluxes, Inflammations of the Liver, Impostumations of the same; Boils, Tumors, Abscesses, and Stiffness of the Joints; a Wasting, Consumption, and a great many more Evils.

In this third State great Care ought to be taken to promote the Discharge of the Pus to the external Part, driving it from the Internals; which may be effected by relaxing the Skin with lukewarm foftening Fomentations, and often; conftantly washing and gargling the Mouth and Throat; drinking much of warm, cordial, detergent, and opening Decoctions, which are contrary to Putrefaction; injecting daily a gentle, diluting, emollient, and laxative Glyster, and to be kept long; or sometimes a gentle Purge with Rhubarb and Manna; dieting upon thin Broths duely salted and acidulated; allowing now and then a moderate Glass of good generous Wine; giving also a sufficient Dose of Syrup of White Poppies, or some other Opiate, against any violent or troublesome Symptoms that may arise.

If the Small-pox proves to be of the worst Kind, and that there is rather a gangrenous Ichor than laudable Pus, that almost the whole Skin is beset with it; hence it may easily

ch. II. thro' the various Stages of Life. 379 easily appear, why this Disease is often so unlavoidably satal, notwithstanding all the possible Care taken; and it will be yet much plainer to any one acquainted with Dissections, that as the external Skin is full, so the Eyes, all the Membranes of the Nostrils, all the Covers of the Mouth, the Wind-pipe, the Bronchia, the Stomach, the Gullet, Intestines, Liver, Spleen, and Lungs, are full of the like Puttles; and hence he will understand what has been said, and see what is requisite for the Cure. Thus far the Sentiments of Boerhaave concerning the Small-pox.

The Greatness and Danger of this Disease is estimated by the Quantity of Pimples on the Face and Head; therefore the Matter ought to be solicitated to the lower Parts by all possible Methods, especially the Legs, by Fornentations, Bathing, Blistering, and, thro' the whole Course of the Disease, keeping the Feet and Legs warm; the Breast and Head not any more cover'd than to keep them from

the Injury of the cold Air.

During the filling and ripening of the Puftles the Diet may be allowed a little more plentiful, but yet not hot or inflammatory, with the due Use of anodyne Things, or such as allay Pains and Restlessness. In this State every Thing that abates Acrimony is proper; and, where the Circumstances of the Patient require it, a Spoonful or two of good White Wine, twice or thrice a Day, may be likewise useful. The

A GUIDE to HEALTH Part III.

The Diet in this State should also be adapted to the particular Symptoms of the Disease, as cleanfing, attenuating, and expectorating;

and to promote spitting by Diureticks.

When the Temperament, Age, high Pulse, and especially Watchfulness and Delirium require Bleeding in any other Cafe, why not in this State? which is known to have been used with great Success; for a great many Vessels in this State are almost unpassable by the Fluids; and those who die of this Distemper have inward Inflammations, especially in the Lungs, all which feem to justify that Bleeding is necessary in the Case.

But the gangrenous Disposition which appears in the malignant Sort, is a Reason against it; for hardly any Thing will avail in extreme malignant Cases. In such malignant Kinds, all that is left, is, at least to endeavour to evacuate the peccant Matter by other Ways, as Blistering and Stools, procured by Lenitives not irritating, which would only hurry the Humours and increase the Fever.

For farther Particulars concerning this dreadful Distemper, see the celebrated Sydenbam's Account of the Distinct, Confluent, and Anomalous Small-pox, which nothing can

The Meazles and Scarlet Fever, (tho' not near so dangerous) require much the same Regimen, and the same Method of Cure, as the Small-pox, the Scarlet Fever not differing from the Meazles, except it be in the Manner

ch. II. thro' the various Stages of Life. 381 of the Efflorescence only, insomuch that it may not improperly be called the Confluent Meazles; for the Efflorescence in the Meazles makes its Appearance in different Figures and Shapes, from whence the Skin is diversify'd with several Colours; whereas in the Scarlet Fever the Skin is spread all over with one continued Inflammation and Redness.



### CHAP III.

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Of Inflammatory Diseases with a Fever.

to be considered, which being attended with an acute Fever, do besides induce a singular Inslammation of this or that Organ of the Body, the depraved Function of which gives a Name to each particular Disease of that Kind; such are the Phrensy, Quinsy, Pleurisy, Peripneumony, the Inslammation of the Breast, of the Diaphragm, Stomach, Liver, Spleen, Mesentery +, Guts, Kidneys, Bladder; of the Joints, as in Rheumatisms; and of the Surface of the Body, as in the Meazles, Scarlet Fever, and Small-pox.

† A membranous Part in the lower Belly, to which the Guts are connected.

### Of a Phrenfy, or Inflammation of the Brain.

A Phrenfy is either effential or True or Simpfymptomatick: An effential or tomatick. true Phrenfy is when there is a primary Inflammation of the Brain, or rather of the Meninges 1, with a Delirium and an acute Fever. The Symptomatick Phrenfy, or Phrenitis, is occasioned by a Translation of the febrile Matter or Inflammation, &c. from other Parts upon the Brain.

A true Phrenfy kills the third, fourth, or seventh Day, or else it produces Madness, a Lethargy, or Coma; and a Phrenfy coming upon a Peripneumony, or the Iliack Passion, is mortal; upon the Small-pox, is very dan-

gerous.

This Difease, of all others, requires the most powerful Remedies without any Delay, which are able to remove the Inflammation of the Arteries of the Brain, and are chiefly to be taken from the general Cure of Inflammations in Fevers, describ'd in the foregoing Chapter, observing at the same time the following Rules.

Copious Bleeding, by opening the temporal Arteries, or more Veins at once, in the Foot, Throat, and Forehead, with large Orifices, are the most effectual Remedies. Great Quantities of cooling Decoctions ought to be

given

Are Membranes which cover and embrace the Brain, and they are called the Dura Mater, and the Pia Mater, or Meninges.

Ch. III. thro' the various Stages of Life. 383 given often and warm, with large Portions of Nitre. Then cooling Purges, and at the Time of their working, to give Draughts of diluting nitrous Liquors. Sometimes Glysters of the like Kind, with lenitive Electuary, or Honey, or any such Openers may be given.

Solliciting the Blood to other Parts of the Body; therefore tepid Bathings of the lower Parts, and emptying the Piles with Leaches, relaxing Fomentations apply'd to the Veins, which carry the Blood from the Head, relieve in this Disease. We should likewise apply Blisters and Cupping-glasses to the inferior Parts; Blistering the Back, and even the Head sometimes, in phlegmatick Constitutions especially, has been found useful. The Body ought to be kept moderately cool, and set upright if possible, for the warm Air of the Bed exagitates the Blood.

But if the Phrenly has been occasioned by a pre-existent inflammatory Distemper in some other Part, it ought to be carefully minded, whether the Nature of that Illness will bear the Applications above-mention'd; which if not, then it ought to be cured according to the Method peculiar to that original Distemper, always adding the Remedies that divert from the Head, and that are

externally apply'd.

The Diet ought to be slender, of mealy Substances, as Water-Gruel acidulated, or subscied ripe Fruits, with their Jellies, the Drink small, diluting and cooling, Barley-Water.

Water, and the Decoction of Tamarinds are all necessary and useful. For farther Satisfaction herein, see the Articles of Delirium and Watebfulness in the preceding Chapter.

# Quinfye, which profining and this control

There are two Species of it; A Quinfy without the first is without any sensia Tumour almost always mortal. ble Tumour either externally or internally; but the other Species of a Quinfy is attended with a Tumour. The first Sort is commonly the Confe-The Cause quence of some very long continued Disease, chiefly after very large and often repeated Evacuations. It is accompa-The Signs. nied with a Paleness, Dryness, and Thinnels of the Jaws; because for the most part the Nerves and Muscles of those Parts being relaxed, are most times paralytick, and it is a Sign almost always that Death is just at hand. It is feldom cur'd, and then The Cure. only with Remedies which fill the empty Vessels with good vital Nourishment, and things that warm and strengthen the Body in general.

A Quinfy with a The other Species of the Tumour of various Quinfy, viz. with a Tumour in the Throat, occasioning a Difficulty of Breathing and Swallowing, may be of various Sorts; sometimes it proceeds from a Scrosity obstructing the Glands, which may be watery, cedematous, or schirrous, according

cording to the different Degrees of the Viscidity of the Humours, sometime inflammatory, which Inflammation will sometimes
terminate in a Suppuration, or Gangrene.

The Regimen and Cure in those The Cure. Quinfys, which proceed merely from watery, cedematous, and thin catarrhous Humours obstructing the Glands, must be first. to use such warm Liquors as relax gently; foften and moisten these Glands; Secondly, fuch Medicines as carry off the redundant Serum, by Stools, Sweat, and Urine; or by stimulating, and opening the Emunctories of these Glands to secen the stagnated Humours, which may be obtained by the Apa plication of Cataplasms, Gargles, Injections with Syringes, and by leffening the Quantity of the Lympha with Masticatories, Blisters, and smart Purges that will promote watery Stools. This is with the water wate

In a mere watery Tumour, the Diet may be more warm than in inflammatory Kinds; and therefore the moderate Use of Wine of-

ten relieves the Patient.

But a Difficulty of Breathing and Swallowing, proceeding from Schirrofities of the Glands, is not to be cured any other Way than by extirpating the Schirrus, which alone will be a safe Remedy: or the Surgeon must with Prudence endeavour to fix a Caustick in the middle of the Tumour, to eat the same out; which is seasible enough when the Seat is near the Jaws.

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In the inflammatory Species of a Quinty we ought, by all means politible, endeavour to procure a Resolution Fresh By large and repeated Bleedings Secondly, The Belly must be loofened stoutly with either Purges, or purging Glysters frequently injected. Thirdly, By a very thin and flender Diet, fuch as Whey with Tamarinds boiled in it; Decoctions and Emplions of farinaceous Vegetables moderately acidulated, and fuch as abound with a cooling nitrous Salt. Fourth-W. By Medicines of the nitrous and acid Kind. Fifthy, By loft, warm Vapours confantly received upon the Part, bathing and fomenting the Feet, and Derivations by Blinemerical Chapter and ales test test

When Swallowing is totally abolish'd, the Patient may be nourish'd by nourishing Gly-sters, which is known to have been done for a whole Week, after which the Tumour suppurated.

If the Inflammation ends in a Gangrene, the Case proves generally mortal, except it be only in the Tonsils, Uvula, and Palate, and reach no farther, which Parts may be separated, and the Patient recover.

### Of a Pleurify, was well must

A Pleurify is an Inflammation Disposition of the Pleura, being a double Membrane which covers all the Cavity of the Breast; tho' that is hardly distinguishable from

from an Inflammation of any other Part of the Breast, which are all from the same Canse, a stagnant Blood; for there is no Part of the internal Integuments of the Chest, which is not capable of being seized therewith, whether it be the Pleura or the Mediassimum; and therefore the pricking Pain may be felt in any Part of the Breast: But most commonly it attacks the Sides, and this having a Fever join'd with it, is a true Pleuriss; but if such a Pain affects the superior intercostal Muscles, it is called a spurious Pleuriss.

In a true Pleuris, Bleeding largely, and often repeated in the Beginning ought to be perform'd, and that by a
large Orifice; and the Rule is, to repeat Bleeding so often until there appears no longer any
Siziness on the Top of the Blood; and at the
same time, Fomentations and Liniments
may be used externally. For internal Use, Diluters, Resolvents, Coolers and Lenients that
will asswage Pain, are proper; and all such
Things should be taken warm, and in great

Quantities.

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Sometimes the Part inflamed tends to a Suppuration, which is known by the obstinate Violence of the Pain and Fever, &c. and continuing longer than the 4th Day. That an Abscels is form'd may be known by a frequent shivering, a Remission of Pain, Shortness of Breath, and being able only to lie on one Side, which is the Side that is affected.

B b 2

When

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When the Abscess is broken, the purulent Matter falls into the Cavity of the Chest, and increases by the Discharge from the Ulcer, which produces an Empyema, of which I shall give an Account hereaster. But sometimes the Part affected becomes schirrous, with an Adhesion of the Lungs and Pleura; hence an Assima and dry Cough, an incurable Distemper, unless perhaps there may be some Relief had from much Exercise and Riding.

Sometimes a Pleurify turns to a Gangrene, which causes sudden Death; that a Gangrene is begun, may be known from the Delirium, the livid Colour of the Chest, a sort of bilious Spitting, and from a Cessation of Pain.

Hippocrates observes, that if in The Progthe Beginning of a Pleurify, within nosticks. the space of three Days, the Spitting is Bloody, it shews that the Distemper will be but short; if the Spitting of Blood comes on later, the Distemper will likely run into a greater Length. He adds, that if Pleuritick Persons do not expectorate, an Ab-Icels will be form'd in fourteen Days; and fuch may be freed from that, if they can fully discharge the Matter by spitting in forty Days from the Time of the Rupture of the Abscess, otherwise they fall into a Consumption.

In this Distemper the Spitting is to be regarded more than the Urine; and a Pleurify that feems slight in the Beginning, and proceeding

Ch. III. thro' the various Stages of Life 389 fo till the fifth Day, but growing worse the fixth, is commonly mortal. When the Supporation is made, or Matter form'd in a Pleurise, the Side must be open'd to let out the Matter.

### Of a Peripneumony,

an Inflammation of the bronchial and pulmonary Vessels, the Lungs.
or of the whole Body of the
Lungs, or of one Lobe only. If the whole
Lungs are affected the Case is desperate, and
deem'd incurable; because the Circulation
must be stopt, and no Blood can slow back
into the Heart; the others sometimes admit
of a Cure. It is to be treated after the same
Manner, and with the same Remedies as a
Pleurisy, and most commonly it has the

If the Inflammation be not difcussed in sourteen Days Time, an
Abscess will be formed; the Signs of which
are Shiverings, an Abatement of the Pain, and
a low Pulse, Difficulty of Breathing, Thirst,
and a slight Fever still remaining in the
Evenings, &c. Upon this sometimes a sudden
Suffocation happens from an Eruption of the
purulent Matter into the Wind-pipe; sometimes it is evacuated by spitting it up in great
Quantities; or, if the Rupture so happens, it
falls into the Cavity of the Chest, from
whence proceeds an Empyema, a Phibisis, &c.

B b 2

Leftly, the purulent Matter is absorbed by the pulmonary Veins, and is mix'd with the Blood; and by means of the Circulation, is deposited in some one of the Viscera, as the Liver, the Spleen, the Brain, &c. Hence it comes to pass that peripneumonick Abscelles happen about the Ears, Legs, or Hypochondria, where if they suddenly disappear, and the Peripneumony returns, the Case is mortal.

The Type of a A spurious Peripneumany comspurious Perimonly proceeds from a thick pipneumony. tuitous Matter, generated in the
Mass of Blood, which gradually settling itself
on the Lungs, forms the Distemper. Old
People, and such as are of pituitous, cold,
catarrhous Constitutions, and such as are
troubled with Desluxions of Rheums, are
more subject to this Distemper than others.

It creeps on unawares upon People with a fallacious Lenity at first; they are slightly indisposed, complaining of a fort of Weariness and Debility; they seem to be dispirited; they grow short-breath'd, and feel an Oppression of the Breast; but as the Disorder is hardly considerable enough to raise any great preternatural Heat or Fever, they are not apprehensive of any Danger: After a while however they are seiz'd with Shiverings and a small Fever, from whence the Dissiculty of Breathing and great Weakness increase, and Death approaches, which surprizes the By-standers.

Ch. III. thro' the various Stages of Life. 301 standers, the Urine and Pulle having not such

a fudden Change.

This Diftemper is cured by the 7th Cure, following Method; first, let the Patient be blooded out of a large Vein; secondly, a Glyster ought be given every Day, till it appears that the Lungs are eased; thirdly, his Diet ought to be of thin Flesh Broths, Jellies with some Juice of Lemon or Oranges; his Drink also small, of Water and Honey; fourthly, to use diluting, cleansing, and gently opening Apozems, often and in large Quantities; bathing the Legs and Feet, and applying many Blisters.

#### Of an Empyema.

An Empyema is a Collection of purulent Matter in the Cavity of the author. Thorax, most commonly occasion'd by the Rupture of an Abscess, produced by a Pleurisy or Peripneumony: It is known, if for twenty Days after the Beginning of the Inflammation there has been no Expectoration; from a dry Cough, a Weight on the Diaphragm\*, being able to lie only on one Side; from a fluctuating Noise of the Pus or Matter upon moving the Body, a flow Fever, Redness in the Cheeks, Hollowness of the Eyes, Heat in the Tops of the Fingers, Crookedness of the Nails, and a Tumor of the Belly.

B b 4

It is a tranverse Membrane, which separates the Thorax or Chest from the Abdomen or lower Belly.

As to what relates to the Cure of an Empyema, when it is once known that there is a Rupture of an Abscess of the Lungs, Pleura, Diaphragm, or the Mediaftinum +, or Pericardium ‡, endeavours must be used to discharge the Matter by Expectoration, by the urinary Paffages, or by Stool, if Nature offers to do it those Ways i for if purulent Mitter appears in the Urine, let diuretick Medicines be given; if purulent Stools happen, laxative Purges; if Spitting offers, expectorating Medicines: Some make Iffues with Causticks betwixt the Ribs. For internal Use, Balsamicks, Vulneraries, Decoctions of the Woods, Jellies of Hartshorn, and Ground-Ivy, are very much commended.

But if all Remedies fail, the Cure must be attempted by an Aperture of the Thorax, with a proper Instrument on the Side affected, between the 4th and 5th, or 5th and 6th Ribs, counting from the lowermost, drawing off the Matter gently and gradually: From the Nature of the Pus, when taken out, and other Circumstances of the Patient, one may deduce a Prognostick of what may likely be the Event.

If the Empyema be of a long standing, and the Strength of the Patient exhausted, the Hair of the Head falling off, and there be a colliquative Looseness, the Habit of the Rody.

<sup>†</sup> Is a Membrane which divides the Lungs and other Vi-

A Membrane which furrounds the whole Substance of the Heart.

Body tabid, &c., the Operation of the Paracentesis will serve only to hasten Death:

Of a Paraphrenitis, or an Inflammation of the Diaphragm.

A Paraphrenitis is a Disease much like a Pleurify, wherein the Diaphragm, or at least part of it, is really inflamed; and this is what happens more frequently than is commonly believed, mistaking it for another Distemper. It is known by a continual Fever, an exquifite Pain very much increased upon Inspiration, by which it is distinguish'd from a Pleurify, in which the greatest Pain is in Expiration; besides, the Breath is fetch'd deep, quick, and fuffocating, and feems only to be performed by the Motion of the Breaft: It is likewise attended with a Delirium, Fury, and an involuntary Laughter, and Convolfions; and altho' the Whole of the Distemper is known, yet it is generally mortal.

This Distemper terminates as Pleurisies and Peripneumonies, but a great deal more fatal: If it suppurates the Pus, it is evacuated into the lower Belly, where it produces Putrefaction, and a most miserable and painful Death. The Regimen, if any can be successful, ought to be the same as in Pleurisies, and the Cure likewise.

Of an Inflammation of the Stomach.

As other Parts of the Body, so The Signs. may likewise the Stomach be seized.

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with a true Inflammation a The Symptoms and Effects are a burning, fix'd, and pungent Pain in the Stomach, attended with an acute continual Fever, a great Exacerbation of this Pain the Moment after swallowing any thing, succeeded with Vomiting, a painful Hickup and great Anxiety, unquenchable Thirst, want of Sleep, and a continual Tossing of the Body; these are succeeded with Deliriums, and most times Convulsions, ending in Death.

The Causes of these Symptoms are those common to all Instammations in general, a natural Weakness, and perhaps Erosion of the Coats of the Stomach, by acrid Substances taken as Aliment and Medicines. Care must be taken rightly to distinguish between an Instammation of the Stomach, and that of the Liver: In the former the burning Pain and Heat seem to lie deeper; when the Liver is instamed the Instammation is more limited, and the Symptoms are milder.

If this Disease is not speedily cured, it soon proves satal; for People commonly die of it the third or sourth Day; and sometimes indeed, the seldom, it tends to a Supperation, and the Abscess breaks either into the Cavity of the Stomach or lower Belly; and even then they hardly ever escape.

Of all Diseases this requires most a total Abstinence from any Thing that has Acrimony in it; even the nitrous cooling Salts, which

Ch. III. thro' the various Stages of Life. 399 are beneficial in other Inflammations, irritate too much in this; likewife Vomits, all Cordials of volatile and spicy Substances; spirituous Liquors are no better than Poison, and Milk generally curdles. Aliments must be given frequently, and by Spoonfuls at a time, for any Distension of the Stomach increases the Inflammation.

A thin Gruel of Barley, Oatmeal, Where with very little Sugar, or Honey, or Chickenbroth, are proper Aliments; Whey, emollient Decoctions of Barley-water, and Emulfions, are proper Drinks; and it has been found by Experience, that Chalybeat Waters have been agreeable to the Stomach in this inflammatory State. If there happens an Impostume, Honey, and even Honey of Roses, taken inwardly, is a good Cleanser, and a Decoction of Comfrey Roots is healing: Speedy and effectual Bleeding, Fomentations, and Glysters have the same good Effect in this as in other inflammatory Distempers. Likewise the same Regimen and Remedies ought to be used in a Schirrus or Cancer of the Stomach; tho' nothing will prove quite effectual. The fame Method is to be purfued in the Inflammation of the Spleen, Pancreas, and Caul.

Of the Inflammation of the Liver.

As other Bowels and Parts of the Body are capable of Inflammations, so is the Liver likewise; but as the Hepatical or Liver Artery, and the Vena Porta, carry the Blood

into the Liver, the first being very small, and the Motion of the Blood being slow in the last, are the Reasons that Inslammations in the Liver are not so frequent as in some other Parts of the Body; but when they happen they are extremely dangerous, unless they take up but a small Part of the Liver; and such happen more frequently than is thought of.

The best Cautions, both in Diet Diagnostick and Cure, may be taken from the Signs.

Causes and Symptoms of this Distemper, which, besides the general Causes of Inflammations, are extreme Fatness; for Fat diffolved by Heat and Inflammation obstructs the Vessels of the Liver very suddenly; and Cattle fatten'd by good Pasturage, after violent Motion or Running, fometimes die fuddenly, in fuch the Liver is found to be inflamed and corrupted. An atrabilarian adust Temper of the Blood and Gall, an acrimonious or purulent Matter, stagnating in fome other Organ of the Body, is more eafily deposited upon the Liver than any other Part, especially if it is attended with the Use of hot and fpicy Aliments, spirituous Liquors, great Heat and a Fever; Erofions of the Vessels by the Acrimony or Sharpness of the Gall, or Obstructions by Viscidity; likewise any Callosity, Schirrus, or Stone generated in the Liver, Thirst long endured, being suddenly chill'd by cold Air, cold Water, or drinking cold Liquors after great Heat; Vomits

Ch. III, thro' the various Stages of Life. 397 mits given injudiciously, when the Liver is already unsound, which, if they do not remove the Obstruction, exagitate the Liver too much; inveterate hypochondriacal Diseases; are all Causes which may produce Instammations of the Liver.

In such a Case therefore, the Liver being swell'd, compresses the Stomach, Diaphragm, and all the neighbouring Viscera of the lower Belly, stops the Circulation of the Juices, the Generation and Excretion of the Gall, and all Digestion; produces numberless bad Symptoms, as the Jaundice, with all the Distempers depending upon it; for the Liver receives the refluent Blood almost from all the Parts of the Abdomen or lower Belly, and is the chief Instrument of all the Digestions which are there made. A flow Fever, which is more or less acute; an Inflammation and pungent Pain on the Region of the Liver and Diaphragm; a Tension of the Hypochandres, especially on the Right Side; Yellowness of the Skin and Eyes, and a faffron-coloured Urine, are Signs of an inflammatory Disposition of the Liver.

This Distemper terminates as proposited other Inflammations, being cured either by Resolution, Concoction, and Excretion of the morbid Matter; or it ends in an Abscess, Schirrus, or Gangrene: When it suppurates, the purulent Matter is discharged sometimes by Stool, sometimes by Urine, sometimes by Expectoration, and sometimes

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when a Tumor rifes and grows to the Peritoneum, and forms there an outward Impoftume of the Liver, easily discernable, then it
is opened with a burning Iron, or with Causticks; afterwards the Wound is widen'd with
gentle corrosive and suppurating Applications, until there is a Penetration made into
the very Bag or Vomica, which is in the Body
of the Liver; then it is treated as an Ulcer,
and cleaning internal Medicines are duely
administer'd at the same Time.

But during the first State of the Indication Difease, that is, before there are any of Cure. Signs or Suspicion of Impostumation, the Regimen should be cooling, resolving Liquors taken inwardly, as Whey with Sorrel boil'd in it; outward Fomentations and frequent Injection of emollient and diuretick Glysters, Bathing, and Frictions, relax and render the Matter fluid and moveable; Honey, with a little Rhenish Wine or Vinegar, inwardly taken, is likewise proper; also the Juices and Jellies of some ripe Garden-Pruits are useful, and those of some Plants of a milky Juice, as Dandelion, Endive, and Lettuce, are Refolvents. Bleeding in the Beginning, especially in the Foot, will not be improper. Violent Purges hurt, but gently relaxing the Belly relieves. Diluters, with nitrous Salts, are beneficial, and Tamarinds boil'd in Water or Whey: Bloody Stools, not in a great Degree, or when streak'd with Blood,

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Blood, ought not to be stop'd, because they help to resolve the Disease; and oftentimes
Bleeding at the Nose produces the same good
Effect.

The Fever attending is often carried off by Urine, therefore divinctick Subflances, that are not highly pungent and stimulating, are useful in this Case; and Sweating by high Cordials ought not to be attempted; but encouraging and promoting it with warm diluting Liquois is proper.

The Case is deplorable when the Instammation of the Liver terminates in an Abscess, unless it points and appears outwardly, so that it may be open'd; for if the Matter be evacuated into the Lower Belly, it produces woeful Symptoms, as Putrefaction, or an in-

curable Bloody-flux, &c. ...

When the Pus or Matter of an Ulcer in the Liver grows thin and ichorous, it corrodes the Vessels, (for the Liver, of all the Bowels, is the most friable, and the easiest crumbled on dissolved) and it is frequently carried into the Mass of Blood, and rejected by vomiting, with a cadaverous Smell, attended with great Thirst; but if it is carried downwards, it produces a purnlent colliquative Looseness in which Case the constant Use of subacid Becoctions, and other Substances of the acid kind, relieve the best.

Cancer, or Schirrus, as sometimes it does, yet the latter is not absolutely incurable, be-

cause

cause it is experimentally known that Grass and fresh Pasturage has cured it in Carrier and some opening Plants have produced the same Effect sometimes in Mankind, as those of the lactescent or milky Plants already menustioned, with a great many other Vegetables too tedious to insert in this Place.

But it is to be observed, that the Diet recommended here is likewise necessary in the Jaundice, and all Distempers of the Liver; and also an Abstinence from all such Things as induce Putrefaction, especially salt Fish and Flesh, and above all strong Liquors.

## Of an Inflammation of the Mesentery.

Inflammations and Tumors of the Mesentary, (being a Membrane in the Lower Belly to which the Guts are connected, and through which all our Nourishment is convey'd to the Blood,) are frequently the Origin and Foundation of many obscure and latent chronical Distempers, which greatly afflict People labouring under them, and perplex those who undertake their Cure as well.

Diagno: Persons affected with these Disorders sick. complain of Pain about their Back and Loins, sometimes in the Belly about the Navel, with Gripings, yet these Pains are commonly periodical and chronical; and every now and then comes on a small wandering Fever, and the

Chillistoro' the various Stages of Life. 40101 the Pains come and go, having their Remissions and Exacerbations and exacerbations.

When an Absection the Mesentery Absections supported and breaks, it causes sometimes remarkable Shiverings and Shakings, which are sollowed by sebrile Heats, and then the purulent Matter is most commonly discharged by Stool.

The Body in this Case gradually prognostick. wastes, the Breathing grows more than usually difficult; and every now and then they complain of something that is very troublesome to them, which they cannot well explain: They tell you, that it lies deep in their Belly about the Navel, or below it; they are most commonly very much troubled with Wind. These Tumours oftentimes continue many Years, being turn'd schirrous and strumous.

When the Disorders of the Mesentery are of a long standing, they are
cured as other chronical Diseases, such as
chachettick and hypochondriack Affections:
Yet they are to be treated with Caution, and
gently without any Violence. Externally, Emplastrum de Cicuta cum Ammoniaco, de Ranis
cum Mercurio, &c. are convenient. Internally, Medicines that open Obstructions, such
as Millepedes and Preparations of Steel, &c.
likewise Remedies against strumous Distempers are proper, and opening of the hamorrhoidal Veins by Leaches; but rough Purges
are hurtful, and Glysters are useful.

Cc

Of

Of the Inflammation of the Guts.

The Intestines or Guts, chiefly the small ones, are very often feiz'd with the like acute Inflammation in their Membranes, as the Stomach, from Caufes common to The Caufe. all Inflammations carried thither; or from the Matter of acrimonious or sharp Drink, Aliments, high Sauces, Medicines or Poisons reaching those Parts, and detain'd in the Foldings of the Valvules and sticking to them; also from a sharp, putrid and feetid, purulent, ichorous, gangrenous, bilious Matter, convey'd hither from the Gullet, Stomach, Liver, Spleen, Pancreas, and Caul, which sticks also to them and corrodes them; or laftly, from a Convulsion filling them with Wind.

The Symptoms are a total Stop-Symptoms. page of the Passage, a vehement fix'd burning Pain, irritated by Things taken inwardly; when any thing touches the Part affected, it excites Vomitings, sharp griping Pains, with Wind in other Parts of the Bowels; and the Consequences of such an Inflammation are the Iliac Passion, or what is vulgarly call'd the Twifting of the Guts, but in fact is either a Circumvolution or Infertion of one Part of the Gut within the other; an Impostume, Gangrene, Schirrus, Cancer; a very acute Fever, with great Weakness from the Fierceness of the Pain, and a very sudden Death. Taking!

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It is of the utmost Importance to know what the Causes of Colicks are; for as they are various, so the Remedies in one Case are quite opposite and destructive in the other; for spicy, warm, carminative Things, which are given in Colicks proceeding from a phlegmatick or cold Cause, are Poison in an inflammatory one; but they may be distinguished by the Fever, high Pulse, Thirst, and high colour'd Urine attending the Inflammation. As to the Heat, tho' it is likewise great by the Violence of the Pain, yet the Extremities grow cold; and besides, there is a sudden Prostration of Strength, or Weakness, attending this inflammatory Colick more than any other.

This Disease requires a speedy Remedy, or none; for otherwise it terminates in an Iliac Passion, and Mortification of the Bowels very foon; therefore plentiful Bleeding, and fomenting and relaxing the Bowels with emollient warm Liquors, both taken inwardly by the Mouth, and by Glyster injected hourly. is the most sovereign Method that can be made use of; yet it has been known, that Acids have relieved in very desperate Cases, as Juice of Lemons taken by the Mouth, and Vinegar and warm Water given in Glysters, have faved the Patient; by Reason of the continual Vomiting, Opiates likewife to quiet the Convulsions are oftentimes necessary; also warm Fomentations, even of warm Animals applied to the Belly, are extremely useful.

Cc2 When

When the Inflammation happens to be in the Lower Guts, it is not so dangerous; and even when it suppurates it will admit of a Cure; for then it can be come at by proper Medicines in the Form of Glysters; and in the latter End of fuch a Case Chalybeat Waters are very beneficial. on soubord as andid P.

If the Patient lives three Days, the Acuteness of the Pain abates; and if a Shivering or Chilliness affects the Body, it is a Sign of a Suppuration, and in some few Days the Matter flows either into the Cavity of the Belly, producing all the Symptoms which happen in an Impostumation of the Liver, or into the Cavity of the Guts, and causing a purulent Bloody-flux, and often a Consumption, Sinus's and Fiftulas; in which Cafe Whey and Chalybeat Waters are proper Drinks.

The Aliment ought to be of fuch Substances as generate little or no Excrements, as Broths of Flesh-meat, with Scorzonera, Parfley, or Fennel boil'd in them: Goat's Whey is likewise excellent in the Case; but fat and

oily Substances generally do harm.

If the Fever continue with clammy Sweats, Paleness, an ichorous Loosness, fœtid, black, or like the Washings of Flesh, a small intermitting Pulse, and at last a Cessation of Pain totally, they are Signs of a Gangrene, and Death at hand.

But if none of the foremention'd Signs happen, and that the Fever abates, and the Perfon complains of a Weight, dull Pain, Stoppage

Ch. III. thro' the various Stages of Life. 40% page of the Excrements, a Schirrus is forming, which increases daily, and may terminate in a Cancer; which Purging, and indeed all Medicines irritate: The Patient in fuch a Case may protract a miserable Life with an exact thin Diet of Whey, Broths, and such Things as produce no Faces, or by nourishing Glyfters, even three three Days, ersfilled gin men of the Pain abates, and it a Survetup of

#### Inflammations of the Kidneys. ensine and in fome few Days the Mat

The Kidneys as well as other Parts of the Body are subject to Inflam- Signs. mations: Which may be known from a pungent, burning, inflammatory Pain in the Region of the Kidneys, a Numbness, or dull Pain in the Thigh on the Side affected; likewise Colick, Wind, Vomiting, an acute continual Fever, Urine sometimes totally suppress'd, often made in small Quantities, high colour'd; and which is worse, sometimes. very watry and quite pale without any Sediment. As to the outward Sensation of Heat, the Extremity of Pain oftentimes produces a Coldness in the extreme Parts, which is very confistent with inflammatory Distempers.

This is produced by all the Caufes The Caufe. of a general Inflammation directed to the Kidneys; and therefore, whatever obstructs the Blood in the Extremities of the Arteries of the Kidneys, will produce this Distemper; a Wound, Bruise, Abscess, Swelling, Lying often long on the Back, too vio-

Cc3 lent lent Motion, especially walking, or hard siding in hot Weather; and whatever obstructs
the Passage of the Urine into the Pelvis, Ureter;
or Bladder, as a viscid Matter, Gravel or Stone;
likewise everything which forces the gross Parts
of the Blood into the urinary Passages, as Heat,
hard Riding; Straining, too great Fullness of
Blood, and especially sharp and forcing Diureticks; and lastly, a convulsive and involuntary Contraction of the small Vessels of the
Kidneys, if long continued.

Coffee-colour'd Urine is not a dangerous Sign; for it proceeds from the Mixture of a small Portion of Blood with the Urine, and oftentimes it prognosticates a Resolution of the obstructed Matter, and the Expulsion of Gravel, or a Stone after great Pain; but pale Urine is a Symptom which portends the Distemper to be more lasting and dangerous.

The Cure is to be perform'd by plentiful and repeated Bleeding, avoiding carefully at the same time all stimulating Diureticks, which in this State would increase the Disease: Afterwards the Expulsion of the obstructing Matter is to be promoted by emollient and soft Liquors plentifully drank, and by Glysters of the same kind frequently injected; by Bathing and outward Fomentations, by opiate and anodyne Substances, which both ease and relax the Fibres; and those soft Liquors should be drank plentifully notwithstanding the frequent Vomitings; for Vomiting is an Effort of Nature in order to pro-

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promote the Expulsion of the Gravel, Stone,

or any other obstructing Cause.

Therefore Whey, and in a great feverilh Heat, Butter-milk, likewife Emulsions of Barley and Poppy Seeds, Honey in Whey and Water, are all very proper Liquors for this Intention; also a moist and soft Diet, Rest, and keeping out of a warm Feather-hed, and particularly avoiding lying upon the Back.

If the Pains or Convultions be very urgent, without waiting for the Effects of other Remedies, Opiates with due Caution ought to be given; but when the Gravel, Stone, or any other obstructing Cause is separated from the Kidneys, foft express'd Oils, and oily Substances relax the Passages; and if the Pain proceeds only from Gravel, or a Stone, then oily Substances may be safely join'd with stiff mulating Substances, as with Juice of Lemon, Juniper-Water, and some diuretick Syrup, as that of Marsh-mallow, &c. In this Case the Jolting in a Coach, and fuch-like Motion may be used with Advantage.

If the Pain is protracted beyond feven Days, an Abatement of the Pain, Prognoits changing into a Beating or Throbbing, often-returning Shiverings, a Heaviness or Numbness of the Part, are Signs that Matter is a forming, which when made will appear in the Urine; in which Case, soft and balfamick Substances are the most beneficial; for if the Matter remains long, the Case is incurable. In sum of lo trofiel de a gottimo V

Sometimes it happens to terminate in a Fiftula, with which the Person may live many Years in no great Uneasiness. All Balfamicks are good in Ulcerations of the Kidneys: Likewise Butter-milk not quite sour has been deem'd a Secret in the Cure of Ulcers of the Kidneys, and Steel-waters have proved very beneficial to some; Spruce-beer is also a good Balsamick in such a Case; and soft Malt Liquors are preserable to Wines.

Inflammations of the Kidneys terminate fometimes in a Schirrus, or large Stone. But a sudden Remission of the Pain, with cold Sweats, a weak and intermitting Pulse, Hickup, no Urine, or in very small Quantity, black and sociid, are sure Signs of a Mortification and ensuing Death.

The Regimen of these who are subject to nephritick Disorders may be in some measure collected from what has been above-mention'd; and such ought to be extremely careful of the Choice of their Liquors; for sharp Wines which abound with Tartar, are very hurtful; soft Malt Liquors, not stale, are certainly much better to be made use of, and some of the softest diuretick Substances often mention'd already; and to avoid acrimonious Things in their Food, use moderate Exercise, and not lie too hot, soft, nor much upon the Back.

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Sometimes it happens to terminate in a evil yam noise Of an Apoplexy." ears in no great Uneatinets. All Bal-

bi This Diftemper is a fudden Sufpension of all the Senses, both ex- Definition. ternal and internal and a Privation of all voluntary Motion, by the Stoppage of the Flux or Reflux of the animal Spirits through the Nerves destin'd for those Motions, commonly attended with a strong Pulse, and difficult Breathing, with Snoaring, together with an Appearance of a deep and continual Sleep, total agrains

The most common Causes of Apoplexies are a particular Conforma- The Caufes, viion of the Body, as a short Neck; for there are fome Persons who have fewer Vertebra in their Necks than others, polypous Concretions of the Blood, an inflammatory Spiffitude of it, a thick, glutinous, or pituitous Blood, and a dull Inactivity of the whole Mass; a gross, plethorick, fat, or phlegmatick Constitution; whatever hinders the Motion of the Blood thro' the Arteries of the Brain, as Tumours arising within the Cranium, or Polypus's, especially about the Heart, attended most commonly with an unequal Pulse, a Vertigo, and sometimes a momentary Loss of the Eye-fight; old Age, attended with a glutinous, cold, catarrhous, leucophlegmatick Constitution; for in such the Forerunners of an Apoplexy are, Dulness, Inactivity, Drowfiness, Sleepiness, Slowness

A GUIDE to HEALTH Part III. of Speech, and giving Answers, Vertigoes, Tremblings, Oppressions in Sleeping, Night-Mares, Weakness, Wateryness, and Turgidity of the Eyes, a great Fulness of Blood, with its Velocity increased by Heat and violent Motion, a high Diet, and Spirituous Liquors, a partial and imperfect Circulation of the Blood towards the lower Parts; the Effusion and Pressure of any Serosity, or Blood upon the Ventricles of the Brain, which is the most common and immediate Cause of Apoplexies; violent Passions and Affections of the Mind. The immediate Forerunners of an Apoplexy are most commonly a Vertigo, Staggering, Loss of Memory, Stupor, Sleepiness, a Noise in the Ears, and a deep and laborious Breathing. To these may be added, Extravalations of the Blood or Serum from Contusions or Concussions, occasion'd by external Violence, and an innumerable other latent Causes.

The Division of Apoplexies into sanguineous and pituitous is of Use, but then it is not an exact and perfect Division; because there are other Kinds, viz. serous, atrabilarious,

and polypous Apoplexies, &c.

A flight Fit of an Apoplexy is Prognosticks. carried off by a plentiful, warm, and equable Sweat, a great Discharge of thick Urine, a Flux of the Piles, or of the Menses, by a Looseness, or a great Fever coming upon it. If the Apoplexy be more severe, it usually terminates in a paralytick Disorder of

ch. III. thro the various Stages of Life. 41th of some Part of the Body, or of all one Side, which is called a Hemiplegia, or sometimes of all the Body below the Head, which is called Paraplegia, and is seldom curable, but always leaves behind it a great Desect of Memory, Judgment and Motion. An exquisite Apoplery soon carries off the Patient; it is seldom known that they live beyond the seventh Day.

The Cure is to be varied according to the Difference of the The Cure was rious. Causes, for if occasion'd by a cold phlegmatick Cause, we ought immediately to endeavour that the Pressure of the glutinous Siziness may be diverted from the Head, by Derivation into other and opposite Parts, and universal Evacuations: for this Intention, Blisters, Causticks, Frictions, Ligatures, Anti-phlegmaticks, sneezing Medicines, and all sharp and stimulating ones are to be used, as Emeticks, strong Purges, and sharp purging Glysters.

Yet in the Use of all these the Mischies is oftentimes increased, the Matter being thereby more violently moved and afterwards fix'd, and the Strength sinking under the Evacuations; therefore in endeavouring a Resolution, we ought to insist upon Evacuations and Revulsions, as much as the Case will bear; whence the Rule of Hippocrates, Bleeding except it relieves, kills; and Celsus says, that it kills or cures. But if the Apoplexy proceeds from a hot Cause, and that the Distemper

temper seems inflammatory, then presently take a large Quantity of Blood out of the Jugular Veins, and repeat it as often as there is Occasion; by which, if the Distemper is curable, some Relief will arise. A Looseness is by all means to be promoted, and we are to give Diluters, Attenuants and Diureticks at the same time, keeping the Patient as much as we can out of Bed, especially

from lying down.

As the Applications in the Fit are of a medicinal Kind, it being too acute a Disease to admit of any Helps from Diet, yet that may be of great Use for Prevention; therefore a thin, flender, cool, and regular Diet, opposite to the particular Symptoms abovemention'd, will be useful; so that the Regimen is to be varied according to the Cause of the Disease, which may be collected from the Constitution of the Patient in these Apoplexies, which depend upon a fanguineous Cause; the Regimen prescrib'd in a sanguineous Constitution, in Part II. of this Treatife is proper. Fat and phlegmatick People, who are very fubject to this Distemper, ought to give Attention to the Rules fet down in the same Place, in their Case; and as there are Apoplexies from inveterate Gouts, the Regimen of such must be different from both, as I shall explain hereafter in treating of the Gout, the Intention being to translate the Gouty Matter upon the Extremities of the Body: and all those who have a Disposition

Ch. III. thro' the various Stages of Life. 413 to this Distemper, ought never to go to Bed with a full Stomach, nor to lie with their Head low.



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# .VI P A H 3 d, electally

Of Chronical Distempers.

sheel C a stude of a Pally. The Carlotten

A Pally is a Resolution or Relaxation of the nervous Parts from their natural Tone, by which means their Motion and Sense, either one, or both, all over the Body, or in some particular Part or Parts, are impair'd, so as to be unable to exert their natural Functions.

The best Rules of Diet in this Disease are taken from the Know-ledge of its Causes; for whatever stops either the Flux of the Spirits, or that of the Blood to any Part, induces a Palsy, for both are necessary for Sensation and Motion; such are all the Causes of an Apoplexy, an Epilepsy, extreme and lasting Pains, the Suppression of usual Evacuations, either natural or morbid, Translations of diseased Matter in acute Distempers, whatever distends, distorts, compresses, or contracts the Nerves; strong and strait

Att A Guide to Headth Pant III.

Chait Ligatures, Luxations, Fractures, any Inflammation in the Integument, or membranaceous Sheath of a Nerve, especially in the Plexus, where they are tied together; likewise serous Defluxions, Excess in aftringent Aliment, chiefly unripe Fruits, drinking too much warm Water, is weakening and relaxing; also Excess in Tea or Coffee; extreme Heat or Cold, poisonous Fumes of Arsenick or Mercury.

This Diftemper is more or less dangerous according to the Cause, or the Extent and Seat of the Disease; for when the original of it is in the Brain, it is most dangerous; when it seizes the Heart or Organs of Breathing, it is fatal; because Life cannot be continued a Moment without the Use of those Parts.

Difficult to Convulsions, the Colick, and other Affections of the Brain or nervous System, if it does not grow better in a little time, or give Way to Medicines, it commonly remains incurable.

The Regimen in this Differnper should be warm, attenuating, confishing of spicy and cephalick Vegetables, such as produce a severish Heat; because such are necessary to resolve the Viscosity of the Fluids. Of such as consist likewise of an acrid, volatile Salt and Oil, as Mustard, Horse-Radish, &c. stimulating by Vonsits, sneezing, relaxing the Belly by purging, and diluting strengly at the same time, promoting Sweat

Sweat by such Motions as can be used, or other Means, and strong Frictions are here very useful; but Bleeding is to be used or omitted according to the Symptoms which affect the Brain: It relieves indeed, in any inflammatory Disposition of the Coat of a Nerve, yet it is not convenient in general for all Persons; for some Paralyticks are cold, and others of a hot Constitution; therefore Remedies ought to be of a different Kind, as is usual in the Scurvy itself.

The most noted Medicines in this Case, are of Vipers, Amber, Earth-worms, Wood-lice, Emets, Antimonials, Mercurials, Steel Preparations, the Antiscorbutick Juices, with compound Horse-radish Water, and Juice of Oranges, Gum Guaiacum, Tincture of Amber, Spirit of Hartshorn with Amber, Bezoar Mineral, &c. And externally, Fomentations, Liniments, Cupping-glasses, Blisters, nettling the Members affected; also putting the relax'd Part into Grains, after the Wort is drawn off, or into the Belly of a Beast newly killed; or lastly, an artificial or natural Bath, as that in Somersetshire; Tikewise Islues and Setons are proper in this Case.

Of an Hemiplegia and a Paraplegia

A Hemiplegia is when only half of the Head, and of the rest of the Body on that Side is affected, after the manner of an Apapelexy.

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A Paraplegia or Paraplexia, is, when the whole Body, except the Head, is affected by reason of the Spinal Marrow's being obstructed; and more commonly this and a Hemiplegia are secondary Distempers, tho sometimes they are primary; Sense and Motion, or both, are either entirely lost, or much impaired.

When either of those Distempers immediately follow an Apoplexy, Epilepsy, and other Diseases, they are commonly called Palsies; but a Palsy is a different Distemper, as plainly appears by what has been said of it

already.

The Cure. In all Paraplegia's, to cleanse the first Passages; and Bleeding is necessary in plethorick Bodies. In the next Place Sudorificks are very useful, mix'd with Specificks; a Decoction of Sassafras with Rosemary and Juniper-Berries is very proper; and for the rest of the internal Medicines for the Cure of these two Distempers, use those directed in an Apoplexy and Palsy. A Fomentation made with a Decoction of Emets and their Hillocks in common Water, used every Day to paralytick Limbs, often proves very beneficial, and sometimes procures present Relief, by restoring the Parts to their natural Strength.

Byzanacy are of the Meases. Piles, and

An Epileply is a Convultion or The Definition Body, or of some of its Parts, with the Loss of both internal and external Senses, attended with violent Concussions and reciprocal involuntary Motions of all or some of the Mulcles. with alternate Rest, and new Insults thereof. It is called the Falling-fickness, because the Persons affected with it fall suddenly upon the Ground.

Ground.
The Causes of this Distemper are
The Causes various; sometimes an hereditary warious, or Family Disposition from Parents; a fudden Fright of the Mother when with Child of the Patient; an ill Affection of the Brain by Wounds, Bruises, Blows, or Contusions; Abscesses, acrimonious Serum, bony Excrescencies of the Inside of the Skull, its pressing down upon the Brain; Indammation, Corruption, or Corrolion of the Meninges or Membranes of the Brain; Repletion or Fulness, Heat, Drunkenness, intense Study, Terror; all violent Affections and Irritations of the Nerves in any Part of the Body; especially by acrimonious Things in the Stomach or Bowels, by Worms, by Teething, and Aci-dity in the Stomach in Infants; by some Contagion of purulent Matter after acute Diseases; likewise by Suppression of usual Evacuations, as the Menses, Piles, and Urine, Esc. also by hysterical Affections contracted

by Accidents in Lying-ing and often by too: great Inanition or Weakness occasioned by want of due Nourishment; by Fragments or Splinters of Bones, or tharp Inftruments hurting the Meninges or Brain, or Quickfilver carried thither any how; by the Caries of a Bone, black Choler, or venereal Ulcers cord rupting or corroding the Meninges or any Part

of the Brain was in was no member Regimen - nember 1

Hence it is evident, that different Medicines and different Indications are requifite to cure this Disease, according to the known Variety of the Cause, the peccant Matter, and the Place to which the Remedy ought to be applied, and by which the Evil is to be eradicated: Hence likewise is sufficiently exposed the Vanity of the celebrated Specificks and Methods, which boafting idle People do brag of in this Disease.

And it is also evident, that the proximate Cause of all true Epilepsies is always the too great Action of the Brain upon the Nerves ferving for Motion, and the Privation of that in the Nerves dedicated to Sensation; and that the Causes which create the reciprocal Paroxysms are many in Number and Va-

riety.

The Intentions in the Cure of The Cure. this Disease must be different, according to the Cause, as I have just now obferved: Bleeding and plentiful Evacuations, when there is a Plethora or inflammatory Difposition in the Brain, are necessary; and Aliments

CH.IV. Thro the warious Stages of Bife. 419 ments that are without Acrimony, demulcent, avoiding every thing which stimulates, and taking such Things as are opposite to the particular Acrimony that causes the Distemper relaxing the Belly without irritating. In acute and periodical Pains to take anodyne Substances; but if the Disease be the Consequence of an hysterical Disposition, a warmer Regimen is necessary, in which Case antihysterick Medicines are proper. If the Cause is in the Stomach, generally Anti-acids relieve; if they are not flatulent or windy, feveral have been cured by a Milk Diet; but . in Case of Acidity in the Stomach it will do Harm. When the irritating Cause is in some outward Part of the Body, it is proper to eradicate it by Suppuration; if it proceeds from Gnawings and Irritations of Worms, Teeth, sharp Humours turning Milk four and curdled like Cheese, or any other Acid in Infants, Diacodium or Diascordium given them unfeafonably, or the Contagion of the Small-pox in the first State: Hence the teftaceous Powders, Anodynes, Paregoricks, Antibystericks, all Medicines against Worms, and a seasonable Cutting of the Gums, and carrying off the acrimonious Matter from the Bowels by gentle Purges; then all these, I fay, become, by their Operation, Anti-epilep-

But if the Cause proceeds from a Stoppage of the usual Evacuations, as the Menses, Cleansings in Women, the Piles, or Urine, &c.

tick Medicines.

Dd 2

it may be remedied by diffolving the viscid Matter, and opening the Obstructions of this Case Blisters, Issues made with Causticks, Steel Preparations, forcing Medicines, such as provoke the Menses and open the Piles, and Diureticks are all proper.

An Epilepsy from Inanition or Weakness may be cured by a nourishing Diet, easy of Digestion, and a proper Use of nervine Medines; and the following are reckon'd amongst the anti-epileptick Specificks; Native Cinnabar, Wild Valerian, Male Piony Roots and Seeds, Flowers of Lilies of the Vallies, Seeds of Rue, Misletoe of the Oak, Castor, Campbire, Rosemary, Earth-worms prepared, the Gum and Wood of Guaiacum, the Salt and Oil of Amber, Peacocks Dung, with a great many more too tedious to enumerate in this Place.

Epilepticks ought to breath in a pure Air, untainted with any Steams, even such as are very fragrant; and their Diet should be nourishing, of easy Digestion, avoiding Hogs Flesh, Water Fowls, and all Vegetables that are pungent, windy, and, generally speaking, all Fruits, especially Nuts; they should use but little Wine, and none if they have not been accustomed to it; they ought not to turn round nor stand on Precipices, to keep regular Hours for Eating and Sleeping, for every unusual Thing is a Stimulus: But of all Things, the most necessary is to avoid the Occa-

in a very hot and thy Air a to these may he

h rater

Ch IV. thro the various Stages of Life. 421
Occasions of violent Passions of the Mind, and keeping themselves chearful.

Steel Preparations, forcing Medicinest fuch as provoke the Sanbald yladonalam hoo less and

That Disease is called by Physicians a Melaneboly, under which the Patient labours long, and is obstinately delirious without a Fever, and always intent upon one and the same Thought.

This Disease arises from that Malignity in the Blood and Humours, which the Ancients have called Black Choler; and the this Disease begins in the Mind, yet it renders the Choler black in the Body very soon.

It will be therefore necessary to give a small sketch of this wonderful Disease, the Doctrine of which is supposed to be so obscure, that Antiquity is unjustly blamed for it.

If the most suid Parts of all the Blood be dissipated, and leave the less moveable united in the Body, then will the Blood become thick, black, fat, and earthy; and this Defect is called by the Name of an atrabilarian Humour, or melancholy Juice.

The Cause whereof is whatever The Causes, expels the most sluid Parts of the Blood, and fixes the rest: A violent Exercise of the Mind; the dwelling Night and Day upon one and the same Object; a constant Wakefulness; great Motions of the Mind, whether Joy or Sorrow; great and laborious Motions of the Body, often repeated, chiefly in a very hot and dry Air; to these may be Dd 2 refer'd

refer'd immoderate Venery; rough, hard, dry, earthy Aliments, long used without Motion or Exercise of the Body to digest them; the like Drink; Parts of Animals dried in Smoak, Air, or Salt, chiefly of old and tough ones; unripe Fruits, and mealy and unfermented Substances; astringent coagulating, sticking, and cooling Medicines, and slow Poisons of the same Nature; hot Fevers hanging about long, often returning without a good Criss, and going off without the Help

of diluting Means.

abunbaké

When this Evil, already bred in the Blood, and produced by the abovementioned Caules, does yet infect equally all the circulating Mass of Humours, it will produce some Diseases; which will appear immediately, and are mostly as follow: The Colour of the Patient internally and externally is first paler, yellower, and more tawny; livid, black with like Spots; the Pulse flower; the Circulation through the Blood-veffels free, more sparing through the Side-veffels and lefs free; hence a flower, less, and thicker Separation of all the fecretory and excretory Humours, and a less Wasting of them; a lessen'd Appetite; a Leanness, Sorrowfulness, Love of Solitude; all the Affections of the Mind violent and lasting; an Indifferency to all other Matters; a Laziness as to Motion, and yet a very great and earnest Application to any Sort of Study or Labour. atld Spin

Chi IV abronthe parious Stages of Life. 423

Its Matter therefore is the Earth and thick Oil of the Blood united and closed up together, which is worse in its Effects, and more difficult to cure, according to its Degrees of Fluidity, Softness, Dryness, Thickness, intimate Mixture, and Time of being so. Hence the Diagnosticks and Prognosticks are plain enough, and the Rationality of the Cure does also occur easy enough from these Principles. Thus far I have transcribed the learned Boers basis's Sentiments of this Distemper.

The atrabilarian Constitution, or a black, viscous pitchy Consistence of the Fluids, which most frequently produces this Disease, makes all the Secretions difficult and sparing; the Intention therefore ought to be to render the Humours shuid, moveable, and carry them out of the Body, especially the Bile, which is viscous; but Sudorificks are not here so pro-

per, because they thicken.

Therefore the Diet prescrib'd, Chap. VIII. Part II. in an atrabilarian Constitution, is very proper in this Case, to which I refer the

Reader month the book and book als provided

The learned Author just now mentioned relates an Instance of a Patient, who, by a long Use of Whey, Water, and ripe Garden-Fruits, evacuated a great Quantity of black Matter, or Choler, and recover'd entirely his Senses. Cold Bathing, and especially a sudden Immersion into the Sea, has produced very good Effects by acting upon the Neeves and Spirits.

Dd 4

Madness

Madness proceeding from a Plethora, or too great Pulness in young, strong, hale People of a hot Constitution, is cured by plentiful Bleeding, Purging, Vomiting, and other Evacuations, with Diluters; and the Weakness which succeeds Madness requires a more refreshing and warm Diet, and especially the Use of Chalybeat or Steel Waters.

· If this Distemper continues long, it produces Foolishness, Epilepsies, Apoplexies, furious Madness, Convulsions, Blindness, wonderful Fancies; for fome will imagine themselves to be Beasts, or to be earthen Vessels. or they will fancy themselves dead; others will crow like a Cock, believing themselves to be fuch a Creature; others laugh, fing, ery, fight, groan and belch; others obstinately refuse to eat any Victuals, as believing they are actually dead; fome think themselves Kings, Prophets; others a Grain of Wheat, Grafs, or Wax: Sometimes they have great Evacuations of Urine, clear like fair Water; at other times very thick; a Retention, Accumulation, and often a fudden Excretion of bloody Fæces in the Vessels of the abdominal Vifcera or Belly; an obstinate Costiveness, with a thin and frequent Spitting, and they can endure to be without Sleep, Aliment, or Fire, even to a Wonder. o washiob kalin

This Distemper grows worse upon taking Medicines that weaken and evacuate roughly, or such as put the Fluids into a violent Motion; therefore the curative Indications will

Ch. IV. thro' the warious Stages of Life. 425 be to bring the Fluids of the Brain, and Nerves into a good Order; by withdrawing, first, the Mind from the usual Object to others contrary to the fame, and raising artfully, if possible, another Passion of the Mind, contrary to the melanchely one; by fiding sometimes with them in their false and deprav'd Fancies, or often opposing the same with great Force and warned to state of

Secondly, By opening, foftening, inciding, and stimulating the Obstructions, or the Cause, or the Effects of a false Imagination, with Mineral Waters, Whey, Water and Honey, Splanchnick, Hepatick, or Anti-bypochondriack Medicines and Decoctions; likewife Waters made with the Addition of lixivious or compound Salts, especially Nitre; alfo loofening Mercurials, Vomits, Motions, . Exercise, and Riding; and Medicines which cleanse and purge the Womb, or the Piles, Bathings, Ointments and Plasters, and easing the Symptoms by Bleeding, plunging into cold Water, and using Carminatives and Opiates fometimes.

bloody Leader in the Veil to of the administration Of Madness from the Bite of a Mad Dog, or any other Creature, called Hydrophobia.

sar endure to be wishout Steem Abrachive The Fury or Madness mostly proceeding from the Bite of Mad-Dogs is call'd Dog-Madness; and from that terrible Symptom of dreading Water, an Hydrophobia. nout so Il rion : sheir fore the curative indications will Which were first mad, and that by Contagion: the also sometimes of its own accord in some acute Fevers, as has been observed, and is well attested. Almost all forts of Animals may be affected with this Evil, and by their Contagion in sect others, and even Men.

Dogs, Cats, Wolves, Foxes, Horses, Asses, Mules, Oxen, Sows, Monkies, Turkey-cocks, and Men, all these being first mad themselves, have communicated the same Madness to others, but it is common to none so frequently as to Dogs, Wolves and Foxes, and it invades these chiefly from inward Causes, without catching it from any others.

A hot Country, open and exposed to violent Heats, or to very cold raw Weather; hot and dry Weather long continued; the living upon rotten, stinking and worm-eaten Meat; Want of Drink; Worms grown in the Kidneys, Guts, Brain, or the Inside of the Nostrils; all these are preceding Causes of Madness in Animals just now mentioned.

The Symptoms of a Person infected with this Poison, after different Distances of Time, are much in the following Manner: The Place where he was bit pains him; then follow wandering uncertain Pains in other, but chiefly the nearest Parts; a Weariness, Heaviness, and Slowness succeed in the whole System of the Muscles; his Sleeps are disturbed, uneasy, all with Frights, Convulsions and Catchings in the Tendons; he is continually restless.

ch. IV. thro' the various Stages of Life. 427 restless, sight, looks dejected, and affects to be alone; and it is much after this Manner that this Disease begins and finishes its first Stage.

Then hall the foregoing Symptoms are increafed, and there follows besides a prodigious Narrowness and Pressure about the Heart and Cheft, Breathing is difficult, and accompanied with Sighs; he frequently shakes all over ; his Hair Rands an end, and trembles all over at the Sight of Water, or any fort of Liquors or even at the Sight of transperent Things, or reflecting like Looking-Glasses; he loses his Appetite entirely, yet he can swallow any thing that is very dry and folid: The Touch of any Moisture, chiefly with his Lips or Tongue, creates an incredible Anguish, Tremors, violent Convulsions, and a Raving; he vomits tawny glewish Choler, or green, like Leeks he grows very hot, feverish, sleepless; is troubled with a Priapism; and he thinks diforderly of Things quite foreign and unufual, Thus it goes on, and here ends its Second Stages more to a this bank the of a shawing

But afterwards every thing grows constantly worse; for he soon solls out his rough and dry Tongue, gapes wide, speaks hearse, has a great Drought, grows raving and surious at every Attempt to drink, and at the Sight or Touch of all Drinkables and Liquors; he gathers Froth in and about his Mouth, endeavouring the spitting of the same upon the By-standers, and that even against his Will; bites and snaps at every thing within

his

o the marious Stages of

Hence you may always reckon upon his dying (within the fourth Day from the first State of his Illness, convulsed with a most terrible Anguish upon drawing his Breath.

As Brevity, and the want of Leisure and Room at present, oblige me to proceed to the Method of Cure without any farther Disquifition about the Nature of this dreadful Contagion, I present the Reader with the following short, easy, and in all Probability the most infallible Method hitherto discover'd.

A French Physician of the University of Bourdeaux, and a Gentleman of Note and great Merit in his Profession, has publish'd a Treatise \* some few Years ago, in which there is a Dissertation on the Hydrophobia, wherein he candidly communicates a very rational Method of curing this terrible Contagion, after a new and easy manner, of which he has made several Trials, and always with the desir'd Success, as may be seen in his own Treatise at large; therefore as this Remedy

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<sup>\*</sup> Dr. Default's Treatise translated from the French, by John Andree, M. D. and printed for John Clarke, under the Royal-Exchange, Cornhill, 1738.

Ch. IV. thro' the various Stages of Life. 429 Remedy he proposes (in all human Probability) may prove fuccessful and certain, fat least it bids the fairest of any hitherto known in the Art of Physick for that desirable Endy I thought proper and necessary to communicate cate the fame to my Readers, in order to impart it to all their Friends and Acquaints as all the while lenlible, and is afraid some

The Remedy confifts of a Powder called Palmarius's Powder, and an Ointment made in the following manner. and did. w) anivo State of dais Hing's, convulted with a most

#### reitible Anguille . The Powder . Hingar A oldinist

and the want of Leifure and

Take of the Leaves of Rue, Vervain, Sage of Virtue, Plantane, Polypody, common Wormwood, Mint, Baum, Betony, St. John's Wort, leffer Centaury and Coraline, of each equal Parts; mix them, and reduce them to a Powder. and a Gensteman of Note and

# The Ointment.

Take one third Part of Mercury reviv'd from Cinnabar, one third Part of human Fat, and as much of Hog's Lard, mix all very well till all the mercurial Globules disappear.

Here I give you the Author's Method in administering the Powder and Ointment in his own Words.

Royal Exchange, Corruptle to

# 430 A Guipe to HEALTH ord Pability

he) in White-Wine every Morning and Persons of the fair Sex, who cannot bear Wine, take it in a Draught of warm Warter, who is a property of warm war ter.

In this Method I continue 30 Days with those who have been bit in an uncovered Place, or have received some considerable Wound by the Bite; but to those who have been bit in a Place that was covered, and had only a few Holes made with the Teeth.

I give the Powder only 20 Days.

'I make them administer a Friction of one or two Drams of the Ointment upon the Wound and neighbouring Part, and spread the Ointment all over the Part that was wounded.

The Friction is repeated every other Day in the beginning, and after the third time, every third Day; after the 6th, every 4th, till two or three Ounces of the Ointment have been used; the Quantity of which ought to be proportion'd to the Strength,

Age, Temperament, Sex, the Bite, &c.

But when the Patient comes to me several Days after the Bite, for sear of Accident, and to prevent the Rabies or Madness, I order to make the Frictions every Day to four or five times, and increase the Dose of the Powder sometimes to half a Dram; afterwards I leave a Day or two between to avoid a Salivation, which might ensue

Ch.IN. thro the warious Stages of Life. 430 enfire from the daily wie of the Ointment. 'laltho'sbut a particular Friction in W mir' [sil Tes In the slaft Rlace, Tiler shim keen his usual Meals, forbidding him all Excels, by Experience proves, that they increase all other contagious Diftempers of Taletabim drink Wine with moderation : I take Care that they be not left alone, and defire their Relations and Friends to keep them Company, forbidding them to mention Madness to them, or mad Creatures and a vine find'

A more circumstantial Account of this Method may be feen in the Author's own Observations, to which I refer the Reader; but here I cannot omit observing, that if so or 30 Grains of native Cinnabar were added to every Dose of the Powder, the Cure might be thereby perform'd with much greater Certainty. As for his directing to make the Ointment with human Fat, &c. it is needless; for the common strong salivating Ointment, which is always ready prepar'd in the Shops, is every bit as good, if not better, i

The Experiments of the ingenious Dr. fames feem to confirm the Efficacy of the above Method, at least that of Mercury, in curing the Bite of a mad Dog; wherefore I beg leave to transcribe Part of the Conclusion to his New Method of preventing and curing the Madness caused by the Bite of a mad Dog, laid before the Royal-Society, 1741.10 3001

First I would (fays ) he) rub into the Place wounded as foon as possible, a iDram enfine 2

of the Dintment recommended by Default. I would then give Turpeth Mineral by Way of Vornit, in a Dofe proportion'd to the Age and Constitution of the Patient; and this I would repeat more than once, at Intervals, which would fecure it from railing a Salivation, always remembring to rub the Wound once in a Day, or oftener, with the Mercurial Ointment.

But when thro' Neglect, any Symptoms of approaching Madness should appear, I would increase the Quantity of Mercurial Ointment, and give Mercury in some Form or other internally, in as large Doses, and those as often repeated as could be done, without hazarding the Patient by a Salivation too precipitate.

In both Cases I would recommend the Cold-Bath, as a Thing of great Consequence, as soon as ever the Patient can make Use of it without Danger; but in this Case, as in all others, many accidental Circumstances will occur, for which it is impossible to lay down universal Rules; it must therefore be left to the Prudence of a Physician to guard against, and remedy Inconveniencies arising from particular Accidents.

#### Of the Scurvy.

It is impossible to define this Distemper by Words, containing any simple or distinct Idea; for it is rather a Name used to signify

The second street

Ch. IV. thro' the various Stages of Life. 433
a Multitude of Symptoms, different and fometimes opposite in their Causes and Cures.

It is a Difease affecting the Inhabitants of cold Countries, and a mong those, such of them as inhabit marshy, fat, low, moist Soils, near stagnating Waters, fresh or Salt; and it invades chiefly in the Winter Season, such as lead a sedentary Life, or live upon salted and smoaked Flesh and Fish, or Quantities of unfermented mealy Vegetables, and drink bad Water; and likewise such as are Hysterical or Hypachondriacal, and sometimes such as have taken great Quantities of the Bark, without proper Evacuations; so that from these Causes the best Rules for Prevention may be taken.

The Symptoms of this Diffemper are a spontaneous Lassitude or Sensation of Weariness, being unrefreshed by Sleep, laborious Breathing upon fmall Motion, cold Swellings in the Legs, going off and returning; formetimes Paleness, or a livid Colour in the Face, Spots on the Skin of various Colours, as red. violet-colour'd, yellow, or livid; oftentimes an ill Smell in the Mouth, and of the Breath, painful and bleeding Corrofions of the Gums, and by these Means the Teeth grow bare and loofe; Fluxes of all Sorts, untractable Ulcers, especially in the Legs, with a gangrenous Appearance in the Skin; the Itch, dry and crusty Eruptions, and sometimes a small Degree of Leprofy; the Blood when taken away is black, grumous, and the red Part without E e

without a due Confiltence; the Serum very falt, and of a yellowish green; wandering Pains in the Limbs, increasing when warm in Bed, and sometimes a feverish Heat.

These Symptoms arise from a bad Temperature of the Blood, either too thin, or too thick, being of a saline Constitution, either from an acid, alkaline, or Muriatick Cause, which requires very different and oftentimes contrary Remedies; for which Reason, See Part II. Chap, VIII. where I have treated of

acid and alkaline Constitutions.

The Scurvy of Seafaring People is generally cur'd by Acids, such as all Sorts of ripe Fruits, Lemons, Oranges, Butter-Milk; but all alkaline Spirits do harm; and acid Spirits, as that of Salt and Nitre are proper for them. If the Symptoms are attended with an ill Smell of any kind, either in the Mouth, Breath, or Urine, with Drought, Heat, Bleeding of the Gums, or of any kind, such a Disease will be cur'd by the Use of Acids, and none better than Whey; and in this Sort of Scurvy Steel Waters are commonly effectual.

But if the Scurvy be muriatick or briny, occasion'd by a Diet of salt Flesh or Fish, the Plants commonly called Antiscorbutick, as Water-cresses, Scurvy-grass, and Brooklime, may be taken with Success, but always mix'd with Acids, as the Juice of Lemons and Oranges; and all the Pot-Herbs which are antiacid, as describ'd in Part II. Chap. VI. are a proper Diet in this Case; but if there

THOUSE THE

CH. IV. throt the various Stages of Life. 435

be a high Degree of Heat and Inflammation. all the hot Anticorbuticks will be very im-Fains in the Limbs, increating when require

When a Patient is pale, cool without Thirst, with pale or natural colour'd Utine, and has made Use of an acescent Diet for any time; that the Eruptions are not of a high inflammatory or livid Colour, then the warm Antifeorbuticks, animal Food, and Salts are necessary Advider to the south of recinion

In the Source great Attention should be always given to the Condition of the Mouth, Gums and Teeth, from which the Nature and Degree of the Distemper may be pretty

well known will Pade of Monter a well

All tharp and ftrong Purges injure fcorbutick Constitutions; but Lenitives are of great Service, and Bleeding is not proper, unless where the Symptoms are urgent and inflaminatory district the the grant Prisonless क्षणां के हैं। व्यापनी अंग अंग्रहाति अंग्रह

# Of a Cachexy, or ill Habit of Body.

parallel of the property of the property and

A Cachexy is fo called from an ill Habit of the Body. It proceeds most Caufes. commonly from the Intemperance of the Person, or the ill Cure of some preceding Disease; from a scirrbous Tumor of the Liver or Spleen, or from a too long and profuse Flux of the Piles, or other Fluxes; from long continual Fevers, or intermitting Fevers ill cur'd; from a Surfeit, or too plentiful use of spirituous Liquors; from the Ee 2 GreenGreen-Sickness, from an Obstruction, or too great a Flux of the Menses; from Aliments of unfermented mealy Substances, as Pease, or such as are coarse, sibrous, fat, sharp, watry, and rough; from Bodies that cannot be digested at all, as Clay, Cinders, Chalk, Sand, Tobacco pipes, Lime, &c. from a Defect of animal Motion in lazy and idle People, and such as sleep too much.

The Diagnostick Signs are a Paleness of the Face, with a livid, yellow, greenish, or ruddy Colour; and frequently with a tumid or bloated Habit of Body, a Sluggishness; there is also often a slow Fever, scarce perceivable by the Person that has it.

The Cure is to be begun with a Vo
Cure. mit; but before a Vomit it will be adviseable to make use of saline Digestives to
dissolve the Viscidities, as Cream of Tartar,
vitriolated Tartar, Salt of Wormwood, Tina
cture of Salt of Tartar, Elixir Proprietatis
with Tartar, and the absorbent testaceous
Powders; but if an Emetick be not judged
convenient in the Beginning, a Purge may
be given, and repeated as need requires; and
then after these Things have been done, we
may advantageously proceed to the Use of
Chalybeats, and Fuller's Ecphratick Mixture
is a powerful Remedy in this Disorder.

This Distemper sometimes disposes to Consumptions, Bloatedness, and Dropsies, and is attended often with Palpitations of the Heart,

therefore

\* Dr. Defay! Defaction duon Configueiters

Ch. IV. thro the various Stages of Life. 437 therefore the Rules of Diet mint be drawn from the Nature of the Symptoms. 437 thought of unfermented mealy, Substances, as Peales.

or such as notiquificon herato, fat, sharp, watry, and rough, from Bodies that cannot

A Confumption is commonly defined to be a Wasting of the whole Body, arising from an Ulcer of the Lungs, but not justly; because I have open'd the Bodies of several who died of this Distemper, whose Lungs I found without Ulcers, but full of Tubercles, Stones, and sabulous Matter; wherefore a Consumption is better defined to be a Wasting of the whole Body from a bad Conformation of the Lungs. Willis Pharmaceut. Rat. Part II. Sect. I. Chap. 6.

A Confumption, or Marasmus, is a Wasting of the whole Body, or some of its Parts, arising from a Distemperature of the Fluids, or from their Desection, or an unequal and disproportionate Heat. Dr. Christopher Bennet, in his Theatrum Tabidorum, translated by

Quincy, Page 135.

By these two last Definitions we see, that an Ulcer of the Lungs is neither the Ante-cedent, nor Concomitant Cause of a Conssimption, but only a Symptom, as will evidently appear presently, in a sew Passages abstracted from a Differentian of a modern Aucthor\*, supported by Reason and Observation, the surest and best Guides: afterwards I give the Reader his Method of curing this Disternance,

Dr. Default's Differtation upon Consumptions.

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stemper, which I found in many Instances to answer the Intentions he proposes. beliegeb

Before I declare the Causes of a Consumption (says he) I thought proper to give a Description of them in behalf of such as are not of the Profession who may read this Dissertation.

A Confirmption attacks Youth sooner than other Ages; that is, from 18 till the 35th Year it makes its principal Havock. Hippocrates, Aph. 9. Sect. 5. Not that the other Ages are exempted from it, since we see consumptive People under and above the Time set down in the Aphorism; but not so often.

Neck, high Shoulders, like Birds Wings, are most subject to it; of those Hippotrates speaks in his first Book of Epidemicks.

2. Those who have the Misfortune of being born of consumptive Parents are very subject to it; for this Distemper has this in common with many others, that it is propagated by Inheritance.

3. Such as are obliged to live with confumptive People, to wait on them, may contract it, if they are any ways inclin'd to it, for it is contagious; thus Women who attend their confumptive Husbands catch it of them, and Husbands of their Wives.

The Disorder manifests Itself, and makes its Progress in the following manner. The Patient seems to have a Cold, he is seiz'd with a dry Cough, which fatigues him most at

chilv. athro the various Stages of Life. 439 at Night: Afterwards he brings up a well-

digested Phlegm of a sweet Taste.

Nevertheless as this Cough continues, as it exceeds the Bounds of a common Cold, as it goes daily increasing, as the Patient's Legs are observ'd to waste, and the rest of the Body in Proportion, as his Colour changes, and he grows pale and yellow, as the Phlegmichanges Taste, and becomes a little bitterish, as some small Quantity of Blood is mix'd with it, as a slow Fever associates with it, with a Pain in the Breast, and in short, when he is at the Brink of the second Stage, he is frighted, and very much alarm'd.

Besides these Symptoms which Authors have taken Notice of, and which establish the sixst Degree, I have always found a considerable Disorder in the Liver, so that an Obstruction in this Bowel plainly appeared from its Hardness, and sometimes a great Pain. I am surprized to see, that Authors have not taken Notice of this, which however is a Symptom deserving of great Attention, since it is of great Importance for the Discovery of the Cause of Consumptions, and of the Agreeableness of the Remedy I

Notwithstanding all the Remedies, Secrets, and other Specificks, the Patient grows worse, and comes to the second Stage, which makes itself known by the Cough being stronger and more frequent by Night, by Night Sweats, which satigue and drain the

have to propose.

E e 4 Patient,

Patient, by the Quantity of Blood in his Spitting, and laftly he comes to spit Matter quant

The Leanness to which he was reduced by the first Degree, increases considerably in the second; the Fever, stronger and more violent, has even some Returns, with cold Shiverings, which encourages his taking the Bark regularly, to stop at least the Returns complicated with the slow Fever, and to continue the Medicines to heal the Ulcer, the Existence of which is no more to be doubted. His Nails grow crooked, and the Distemper, becomes contagious in this Stage.

Let us observe, that it is not always necessary the Patient should spit Blood, to die consumptive; neither is it even necessary for the Patient to spit Pus to determine the Existence of a Consumption, as I shall prove by Observations made at the opening of consumptive Bodies. The Cough, the Spitting of certain Phlegm without Blood or Pus, the Wasting, the nocturnal Sweats, and lastly a Looseness, put an End to Life, it not being essential to this Distemper to spit Blood or Pus,

The Patient at last comes to the third Stage; his Leanness is at the last Period; he resembles a Skeleton covered with a human Skin, which is hard, wrinkled, and rough; his Breath smells strong, and what he expectorates stinks so that he loaths it; he brings up almost pure Matter, and his Life terminates with a Looseness.

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Let us now speak of the Cautes of a Confumption: We shall divide them into concomitant and antecedent. The concomitant Cause of a Consumption, I say, consists in Tubercles and Concretions form'd in the Substance of the Lungs, and which are spread thro' its Lobes. These Concretions are like Hail-stones, and of different Dimensions.

These Tubercles in the Lungs are real, and salf under the Cognizance of the Senses, and are no Supposition invented by a System-monger, to explain the easier his Hypothesis. That great Observator Hippocrates speaks of them in his Book de Morbis: He makes them of two Sorts; some crude, which do not suppurate; and others which suppurate, and leave an Ulcer.

Etmuller, who has compiled the Opinions of the Moderns, has a whole Chapter de Tuberculis Pulmonum, Lib. II. Part. II.

Cap. 8. p. 436.

Read Morton's Book upon Consumptions, he never open'd a consumptive Body where he did not find them: He mentions them in almost every Passage; he imputes to them all the Disorder, and thinks they are the Source of all the Symptoms of a Consumption.

Bonetus, in his Practical Anatomy, Lib. 2. Sect. 7. proposes several Observations collected from Dissections of Bodies, where the Tubercles have been deemed the true Cause of a Consumption, and the Pus and Ulcers only

442 A GUIDE to HEALTH Part III. as the Consequence of these same Tubercles suppurated and degenerated into Ulcers.

But why should we look for Proofs in Antiquity, why employ the Evidence of Foreigners? I appeal to all the Surgeons who have open'd consumptive Carcasses, and to the Physicians who have affisted thereat: Have they not regularly found in all these Tubercles, tho' less in Quantity in those who died of a long Consumption, they having had Time to melt away, and be consumed by Ulceration? Some however have always remained, Death having prevented their Suppuration. This being allow'd to be the concomitant Cause of a Consumption, it will be easy to explain all its Symptoms.

The dry Cough in the Beginning comes from the Pressure of the Tubercles upon the Ramifications of the Aspera Arteria, dispersed through the Substance of the Lungs. Morton, p. 36. The same Irritations which this Compression makes in the Aspera Arteria, squeeze at length a Phlegm out of the Glands, spread about the internal Membrane of the Trachea; and the Cough, which in the Beginning was dry and hard, becomes moist, and throws up the Matter press'd out of the Glands by the Strength of the Cough. Mort.

The Difficulty of Breathing comes from these Tubercles, which fill up part of the Lungs, and lessen in Proportion the Quantity of Air which used to enter there; besides, the

Com-

Ch IV. thro the various Stages of Life. 443 Compression they make upon the Ramifications of the Afpera Arteria renders its Adu But why thould we intustiffic from northim

The Leannels and Wasting are the Effects of these Tubercles, and not the Ulcer of the Lungs, as has been supposed; and as it is of the greatest Importance for the Indication, which should be pursued in this Distemper, to prove that the Ulcer is not the Caufe of the Wastings, we shall infert here the following Proofs. ad Anis a was them at someth theat

Hippocrates, in his first Book of Epidemicks, acknowledges a Consumption without an Ulcer of the Lungs. Agrotabant macilenti citra Pulmonum Ulcus: They were fick and wasted without an Ulcer of the Lungs and more of bear a character and the

2. Hippocrates has also observed, that Leanness has begun before the Rise of the Ulcer, and that it is even far gone when the Ulcer appears .--- Temporis autem progressu exasperatur Pulmo, & intus ulceratur à Pituita inhærente & putrescente, & gravitatem exhibet Pectori & Dolorem acutum ante & retro, caloresque acutiores in corpus incidunt.

It appears from these Passages of Hippotrates, and especially the last, that the Wasting, Cough, Spitting, and flow Fever, have begun before the Ulcer comes on. Temporis autem progressu exulceratur Pulmo : It is only in the Course of the Distemper; temporis progressu, says he; in progress of Time. band fored round of both dong Laftly,

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con that the Ulcer of the Lungs is not the Cause of a Consumption. There have been Persons who died of a Consumption with the whole Train of Symptoms, yet during the whole Course of the Distemper never spit any Pus; and upon the opening of their Bodies no Ulcers were found in their Lungs, but Tubercles in great Numbers. For Proof of this Fact we shall introduce the Observations I upon the Body of Mr. Clever, Merchant, of this City, and of a young Gentlewoman; and also Willis's Observations already mentioned.

The flow Fever depends as much upon the Obstructions of the Liver, as of the Lungs: When the Blood finds its Passage shut up in any Part, it rebounds in a greater Body into the other Vessels; besides, when the Blood, which has not been sufficiently broke in the Lungs, nor depurated in the Liver, does not give way, but resists the Impulse of the Heart and Arteries, it revives its Play, and occasions two or three Pulsations, where one would be sufficient, if it did not resist, and was thin and stud.

The nocturnal Sweats are owing to the thick and gross Disposition of the Blood: When the Serum is not exactly mixt with the other Principles of the Blood, it easily escapes through the Fores.

+ Observations of the Author in his Differtation upon Consumptions, which see.

Ch. IV thro the various Stages of Life.

In is easy to comprehend the Spitting of Blood Who can now be furpilled that Vein fourezed between two Tubereles fould open and furnish some Blood in the Spittle?

on We are now come to the fecond Stage Some Tubercles come to be inflamed, Matter is formed there; the Fever increases, as also the Difficulty of Breathing; the Tubercle burits, and the Pus comes away like Spittle, which the Patient voids in abundance.

But as the Pus which was contained in this Tobercle served its Neighbours as a suppurating Cataplaim, they are not long before they are inflamed, and come to Suppuration in their Turn, and the Lungs are thus deftroy'd and ulcerate every Day more and more. And now the Distemper becomes contagious, the Suppuration of the Tubercle breeds Worms. which infiltrate the Characteristick of the Ulcer. These Worms spread themselves about the neighbouring Tubercles, as proper Beds for their Nourishment and Breeding, and by their Means it is that the Diftemper becomes contagious. An aconso bas lovell ai

The Author has shown, in his Treatife on Venereal Diforders, that all Infection proceeds from Worms

The Loofeness comes from hence, that the Pores are destroyed by the Dryness of the Skin, which has begun with effacing the Pores of the infensible Perspiration, and now even stops up those which evacuate Sweat: The Serum not being well mixt with the boold on which fee

Blood, and finding no more its former Outlets, falls upon the Feet and Legs, and afterwards upon the intestinal Glands, which brings on a Diarrhæa, and makes an End of Life.

We come now to examine the antecedent Causes which produce Tubercles in the Lungs, and shall make it apppear, by an exact Enquiry, that they owe their Rise to eager and coagulating Juices, and not to sharp and corressive ones.

Authors tell us, and we see it confirmed by daily Experience, that Grief is a power-ful Cause to bring on a Consumption. The Soul being continually employ'd in Affliction about the Object which causes it, studies Night and Day to find out a Remedy: This continual Attention of the Soul employs the Spirits in the Brain, hinders their descending into the Stomach, the Appetite disappears, the Digestion suffers, the Chyle is sent glutinous and ill digested into the Blood, disposed to bring on Obstructions either in the Lungs or Liver.

But the free Course of the animal Spirits is not only suspended in the Stomach, but also in the Organs of Respiration; for we see Persons under Affliction forget as it were to breathe to that Degree, that as the Blood stagnates in the Lungs, they are oblig'd to setch at Intervals deep Sighs, which are called sorrowful Sighs.

Befides,

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Besides, Grief suppresses the insensible Transpiration, Sanctorius, Aph. 2. Sect. 7. And Consolation restores it, Animi Consolation liberam facit Perspirationem. Aph. 6. Sect. 7.

For the same Reason Men of Letters, who keep their Spirits continually upon the stretch, by the Excess of Meditation are also subject

to Confumptions, as Morton observes.

The eager Wines, according to Etmuller, produce abundance of Confumptions in the Province of Moravia, as being very proper to form Coagulations and Concretions.

[The Author mentions a Case in his Dissertation, which proves how apt this Cause is

to bring on a Consumption.]

Melancholick Persons, according to Morton's Observation, are very subject to Consumptions, their Blood being disposed to form Obstructions and Tubercles: Likewise, pag. 27, he has observed, that Cold is always the Cause of Consumptions. His Observation agrees with that of Hippocrates, Frigus genitor est phthises pulmonis, scilicet, venulis a frigore constrictis ac convulsis. Cold is the Parent of the Phthises of the Lungs, viz. when the Veins are drawn together by Cold.

Van Helmont has observed, that Steams of Spirit of Vitriol, and of Aqua Fortis, have sometimes occasioned Consumptions. This Effect proceeds from the Concretion of the Juices by these acid Vapours, which form the

and other englishments or publications

Tubercles.

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From

From this Enquiry into the Canfes which are capable of producing Tubercles in the Lungs, it appears, that they owe their Origin to acid and coagulating Juices; and if afterwards the Fluids grow pungent by stagnating there, it is an Effect of the Part which alkalises them; in like manner as we see some Fruits change their Taste, according as they come near to be ripe or rotten.

The Question then is, to look out for Remedies which can dissolve and destroy these Tubercles. This is the Indication which you ought not to lose out of Sight: They are the Obstacles which you must either conquer

or die.

The Roman Hippocrates, Baglivius, in several Places of his practical Writings, exhorts us to give aperitive Medicines in all the Disorders of the Breast; and Duretus, in his Coac. p. 423. says, that the urinary Passages are the Emunctories of the Breast, the Flux of Urine being augmented, procures a Diversion of the Phlegm, which otherwise would take its Course to the Lungs.

These Authors not only propose that Indication, but also the Remedies which I make use of to discharge it. Read Morton, p. 81.

I don't at all doubt, says he, but by a prudent Choice and frequent Use of a thin and sharp Air, and by a long Use of balsamick, mercurial, and chalybeat Medicines and Millepedes, but more especially of Mineral Waters, and other anti-scrophulous Remedies, those

Ch. IV. thro' the various Stages of Life. 449 those Tumors may as well be destroy'd in these Parts as any other, and the Patient be freed from a phthisical and scrophulous Disorder, as we have often found by Ex-

perience.

almole.

This is very certain, for all the English Consumptions, generally speaking, proceed from a scrophulous Disposition; therefore, in the Accesses of such a Distemper, aperitive and deobstruent Medicines, free from much Acrimony, with the mild Anti-scorbuticks, will always prove the most effectual Remedies; but whatever heats too much, disposes to Suppuration; and it is upon these Principles that the Author establishes his Method of Cure in the following Manner.

As foon as I am call'd to a confumptive Person of the first Degree, satigued with a

Cough, which at first was dry, and afterward is become moist, which exceeded the Bounds of a common Rheum, accompanied

with a flow Fever, Difficulty of Breathing,

Leanness, &c. I examine immediately the Liver, where I constantly find a conspicu-

ous Hardness and often a Pain.

I afterwards examine if any general Medicines are indicated, in which Case I order the Patient to bleed and purge; I even repeat Bleeding when the Pain is violent, and if the Patient is young, heated with drinking of Wine, or spirituous Liquors, to prevent the Inslammation of the Tubercles.

Then I apply a great Plaster of the Empl. Diabotanum upon the Region of the Liver,

with which Mercury revived from Cinnabar

'is incorporated, or in default thereof the Empl. Vigonis cum Mercurio. Every Night

I order the Plaster to be taken off, and the

'Quantity of a Dram of the Mercurial Ointment to be subb'd in at the Swelling, and then

the Plaster is put on again, which remains there Night and Day.

'Internally I give twice a-day the follow-

ing Powder.

Take of prepared Mars, Millepedes,

Benjamin, red Coral and Crabs Eyes,

one Scruple of each; mix all well to-

egether to make into a Powder, to be

taken in the Morning and to be re-

peated at Night.

Or made up into Troches in the following Manner:

Take of Mars, Millepedes, Benjamin,

Coral and Crabs Eyes, of each half an

Ounce, Powder of Cinnamon three

Drams, fine Sugar half a Pound; mix

all together, and with the Mucilage

of Gum Tragacanth made with O-

range-flower Water, make Troches

of two Drams each, of which let the

Patient take one Night and Morning.

After every Dose of the Powder or Troches I order them to take a Draught of Ptisane Ch. IV. thro' the various Stages of Life. 451
Ptifane imade of Nettle-Roots, or Whey

well clarified, with which I mix two Ounces of the Juice of Water-Cresses, and as

much of the Juice of Chervil; or some Broth made of a Piece of Veal, Radishes, Cresses,

Brookline and Chervil, or an Infusion of

Green Tea.

The Powder is in two great a Bulk, as he orders it, therefore it would be much a neater Way, and much easter for the Patient to take, if he had ordered the Steel, Millepedes, and Benjamin in a Bole with Syrup of Balfam, and the testaceous Powders in a Julap, or in an Emulsion of Sperma Ceti, to be taken by two or three Spoonfuls after each Bolus, and at other Intervals. This shews the Injudiciousness of foreign Prescribers in dosing their Medicines in a neat and proper Form, though otherwise never so learned.

Our Author strengously recommends Riding twice a day, in all Stages of a Consumption, if the Weather permits, the Usefulness of which he demonstrates from Observation, Reason, and Experience. In the first Stage of a Consumption he allows light Meats of easy Digestion without any Scasoning; but in the second Stage, he orders the Medicines to be taken three times a day, and makes the Patient live upon Cow's Milk, boil'd and skimm'd, and mix'd with an equal Quantity of Green Tea, and sometimes without it, but a thorough Forbearance from all manner of Flesh-

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Flesh-meat: He likewise recommends the
Use of Asses Milk, Chearfulness and Musick.

As Confumptions are mostly occafumptions. finned by Tubercles in the Lungs,
there are some also that owe their
Origin to Obstructions of the Liver, Splein,
Pancreas, Mesentery, Kidneys, Womb, and
Bladder, &c. The Knowledge, Prognostick,
Effects, Cure, and Palliation are casily drawn
from the distinguishing Marks of each particular Bowel, of which no good Physician
ought to be ignorant.

For a more ample Account of the Nature and Cure of this lingering Disease, I refer the Reader to the Author's Observations in his Dissertation upon Consumptions.

### code twing nevered learned.

When a watery Serum is shed out of its Vessels and received into Cavities, or when stagnating it distends its Vessels too much, it is called a Dropsy. Which may take place consequently wherever there are such serous Vessels, that is, in the whole Habit of the Body, and in each Particular thereof.

Therefore this Distemper may happen wherever there are serous Vessels; an Hydrocephalus or Dropsy of the Head, which is only incurable when the Serum is extravasated into the Ventricles of the Brain; and it is generally satal in Infants, when the Sutures are closed and the Skull will yield no more.

Quantities of wa

trong gailain A Dropfy

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A Dropfy of the Breast is attended almost with the same Symptoms as an Empyema, and tured by the same Chinungery. A Dropfy of the Lungs, either by Hydatides or Water-Bladders, or by Lympha extravalated in the Body of the Lungs.

A Dropfy in the fore Part of the Windpipe like a Branchocele. Likewise a Dropfy in the

Oviarium, Teftes, Scrotum, or Uterus.

An Afcites, or Collection of Water in the Abdomen. First, in the Foldings of the Peritoneum. Secondly, Between the Peritoneum and the Bowels. Thirdly, When the Water is contained in the membranaceous Coat of the Glands.

Sometimes the Air is so rarified in the Tumor as makes it hard and tight like a Drum, and from thence it is call a Tympany. When the Tension is from Air, it is easily distinguished by the specifick Gravity of the Patient, and so is Water. And when the Water or Lymph stagnates, or is extravasated under the Skin, it is called Anasarca. Whatever hinders the Return of the Lymph into the Veins, or breaks the Lymphatick Vessels, or obstructs the absorbed, or exhaled, produces a Dropsy; likewise any Stoppage of the Circulation will occasion a Dropsy, as by strong Ligatures or Compression.

The most of the Causes are hereditary Dispositions; drinking great Quantities of wa-Ff 3 tery 454 A GUIDE to HEALTH Part III. tery Liquors, which are not discharged again; violent acute Distempers; stubborn Obstructions of the Bowels; the Jaundice; obstructions of the Bowels; the Jaundice; obstructions of the Bowels; the Jaundice; obstructed intermitting Fevers; Bloody-stuxes; great Evacuations, especially of Blood; viscid Aliment and hard of Digestion; inveterate Scurvies: But the most common and most pernicious of all is the habitual and plentiful Use of spirituous Liquors.

The Effects are a Swelling of the Legs at Night by Degrees, still rising higher; like-wife a Swelling of the Belly increasing; but in a Tympany, founding and tense like a Drum; sometimes the Sensation and Noise of suctuating Water; Shortness of Breath; Thirst; Urine in too small a Quantity; no Sweat; the stagnating Serum at last turns acrimonious, exulcerates and putrefies the Bowels, produc-

ing most dismal Symptoms.

The best Cautions and Rules of Diet may be drawn from the Enumeration of these Causes and Effects; for the Intentions to be pursued are in removing the Causes, as Obstructions, dissolving the Viscidity or Glewyness of the Serum, and discharging it out of

the Body.

The Viscidity of the Serum is belt corrected by such Things as contain abundance of alkaline and volatile Salts, Spices, acrimonious pungent Vegetables, soapy Substances, and what has been prescrib'd in a phlegmatick, Constitution, Part II, which see.

Ch. IV, thro' the various Stages of Life. 455

The only Contradiction in this is, too great Heat and Thirst, to which Attention is to be of Lemons and Oranges, Sorrel, &c. And it may be taken for a general Rule, that when the Unine is high-colour'd Acids are proper, for they are contrary to that alkalescent State. of the Humours, and relift the Putrefaction, which is the Product of acrimonious Serum.

Their Drink should be sparing; but as the Thirst is fometimes insufferable, the Patient may be indulged the free Use of Spaw-water and Rhenish Wine: And the Aliment should be dry and diuretick; but Diureticks of the acid Kind are the best: Strong Frictions of the Skin are very beneficial, which attenuate and promote the Circulation of the stagnating Serum or Water.

Vomiting in ftrong Constitutions has proved oftentimes very effectual; because the Concustion of the solid Parts dissolves and expells the flagnating Humours; and likewife Glyflers of fharp and purgative Ingredients are

very beneficial.

Smart Purges are useful to carry off the Waters; but they should not confist of Volatiles, because such diffolve the Blood, which is pernicious. Abstinence from Drink is very beneficial, and eating dry Bifcuit, which creates no Thirst; likewise strong Frictions four or fine Times a Day.

When the Waters are carried off, the Diet ought to be fuch as ftengthens the folid Parts, allow-

FfA

allowing Spices and generous Wine, but cipe clairly the Use of Chalybear Waters, dry Food, and astringent Vegetables, Exercise especially Riding, and in general, such a Dietasgo nerates good Blood.

When the Serum stagnates long, it turns acrimonious, and commonly renders the Patient severish and thirsty; then acid or sour Things are properest, both to prevent and cure these Symptoms, as they are specifically proper against that alkaline Putrefaction. For a more circumstantial and accurate Account of this Distemper and its Cure in every Particular, consult the learned Boerbaave's Aphorisms upon it.

#### And arrest on Of the Gout.

This Distemper is a very painful Illness, feated principally in and about the Ligaments of the Bones of the Foot and its Joints, feizing Perfons most commonly in the Spring and Autumn; which when undisturbed commonly runs its own natural Stage, and is usually the Companion of People of the midthe Age, of the Male Sex, Men of acute and deep Senfe, who exercise the same much, and fludy late by Nights, such as lead a voluptuous and debauched Life, and at Night drink great Quantities of Wine or spirituous Liquors: Such as have been much addicted to Venery in their younger and unripe Years, large plethorick Men; fuch as are much used to cotyners: Acids,

Chally abro the corious Stages of Life. 459.
Acids, and enot their sweety Rest too sude denly; sweet in wet Stockings or Shoet, hence such as do hunt or side much in cold Weather and finally, such as have it by Inheritance from Parents, or lie much with gouty People.

This Distemper may affect any membranous Part, but commonly those which are the most remote from the Brain and Heart, where the Motion of the Fluids is the slowest, the Resistance, Friction, and Stricture of the solid Parts the greatest, and Sensation of Pain by the Obstruction of the small Vessels and Dilaceration of the nervous Fibres extreme.

The most common Seat of it is in the Foot, its Tendons, Nerves, Membranes, Ligaments and Periosteum, or Membranes investing the Bones. The Patient immediately is sensible of a stretching, tearing, straitning Pain, gradually increasing and decreating again, with a Moistness, Redness, Tumor, ending with a breathing Sweat, an Itching, furfuraceous Skinning, or changing into a chalky Substance, which breaks the Vessels.

By all which it appears, that the proximate Cause of this Disease is a vitiated Temper of the least, and consequently the nervous Vessels in the Body; and also of the Liquid which waters those nervous Parts; and moreover, that this Liquid here is desective by its Acrimony, and by its great Viscidity, and the solid Vessels by too great Rigidity and Narrowness;

rowners: Whence it shows itself in Parts also most remote from the Brain, as resisting Metion the most, because of their Solidity, Hardness, Exercise, and Weight incumbent upon them. Now the immediate Origin of this Defect is from an Indigestion of the Bowels, which do not sufficiently attenuate or affinished the Aliment into a Substance sit to supply the Nerves with Juices proper for thems which require a most elaborate Concoction.

The Circ therefore is impossible, unless wrought by such Medicines as are able to mend these Desects entirely. So that the Gout has hitherto been reputed incurable by Antients as well as Moderns, if except a few Quarks and boasting Empiricks in all Ages.

From the same may be known, that Bleeding does not reach either the Matter, Seat, or Cause of the Disease: yet that same is sometimes sound not only beneficial, but also necessary to cause a Revulsion, and lessen the most urgent inflammatory Symptoms that often attend it.

As one of the Caules of the Gout is the Suppression of Sweat and Perspiration, so the piocuring a due Degree of these seems to be the best Preventative of it; and if the Feet could be made to sweat in due time, it would prevent the Gout, which invades in such Constitutions of the Air as suppress Perspiration.

1 14 190

Violent

Ch. IV. throuthe various Stuges of Life. 439.
Violent Purges in the Absence of the Piny
by agreeing the Humours two much profites

hurt, and may draw the Good into the Sin-

The best Diet is Abstinence from all maniner of Acids, high Sauces, and Gluttony the
moderate use of such things as promote Profit
intion, as aromatick Substances with volatile
Salts, which relieve Gouty People, by condering the Body perspirable; diluting his
quors, taken in such a Degree as not on injure the Stomach or Bowels, Moderation in
Food of a nourishing light Sort, that is easily
digested, as likewise in the use of strong
Liquors, Exercise without Faigue, such as
Riding constantly in a pure, open Country
Air, and Frictions and Motions of the Pars
often repeated; going to Bed early, and lying long in the Morning.

It will be tikewise necessary to restore the lost Vigour in the Bowels, by carrying off the corrupted Liquid slowing yer in the Vessiels, or stagnating in the Places already assign'd. To the first relates the Use of arost matick, bitter, untiscorbutick Plants, and chiefly the Juice with a little Roney, the use of lixivious fix'd Sales taken in small Doses, and often repeated for a long time agether, observing at the same time the Diet as above directed. To the second (that is, the stagnating of the Harmones) will be discludious. Volatile Salts long taken and in small Quantities, in the Morning sometime before Hone,

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with

CH. IV. this the various Stages of Life. 46x 460 A GUIDE to HEALTH Part III.) with a large Draught of fome foftening Apazem, and thereby promoting a gentle breath ing Sweat for about an Hour together in 21 Warm Frictions with dry Cloths. 31 Repeated Doles from time to time of fuch Medicines as purge ferous or watery Humours, taking a gentle opiate Draught the same Night and the sin the Fit of the Gout, as temperate and as cool and diluent a Diet as the Patient can bear, abitaining from Opiates, except when the modeld Matter is separting, otherwise the conftant Use of them is injurious; keeping the affected Part warm without the Application of Plasters, or Cataplasms; for even such as are emollient, weaken and relax too much:

It will be of the greatest Importance to know if any Disease proceeds from a Translation of the gouty Matter; for the Methods, especially Evacuations, used in an original Distemper, would be very improper in a gouty Case, where the Intention must be to draw the Gout down to the Feet by Blisters applied to the Thighs or Legs, and acrid inflammatory Cataplasms and Plasters.

he has Chalk Stones) can bring himself entirely to a Milk Diet, he may by that means so change the whole Mass of the Juices of his Body, as to eradicate the Distemper.

The English Hippocrates, Syden-The English Hippocrates, SydenCh. IV. thro' the various Stages of Life. 261 one, and he could conceal it, that would be as effectual for the curing whis Diftemper as Riding on Hopfeback is, and not only here; but in most other chronical Difeases, he might get immense Riches by its price and here in the curi

And Dr. Lifter likewise says, and that one single Golden Rale of Ab. of Abstraction stinence pleases me beyond all things, Parva cibatio summe Cure sit, viz. Beware not to eat and drink too much, which is a thing every one ought to regard who has his Health at Heart; and this Abstract is in all People's Power, in whatever State or Condition they are in, to be substituted in stead of Exercise, when they have even lost the Use of their Feet.

# of commons letter the to set the encir Less to m Of the Rheumatiful to have a

Scurvy, and is common in all the Northern Parts of Europe.

Such are most subject to this Disposition ease as are of a tanguine Constitution, infected with some acrimonious Desect, manly Age, plentiful Living, a sudden Cooling of a heated Body, Spring and Fall, 
Perspiration interrupted, an inflammatory Disposition, but appearing slower than in a Pleurisy. It begins with a continual Rever, causes a most terrible tearing Pain, increasing cruelly upon the least Motion, long continual and fix d in one Place, seizing the Joints of

any Limbs, but most particularly troubles fome to the Knees, Loins, and Rump-hone, tompening and invading sometimes the Brain, Lyngs and Bowels, with a Tumor and Rediness of the Place, going off and returning again by Fits a stivished about year and W

The immediate Cause of this chapter Distemper seems to be an Inflammation in the serous part of the Blood affecting the simplestick Arteries, and set other Region affecting those Parts where the Mossels are the simallest, but not seems anought to change it into an Impostumation. The Blood, as in other inflammatory Cases, is say, the alkalesent Salts in the Serum abounding with coreaccous or leathery Coherentions.

Bleedings, cooling, repeated Purges, salarage allaying the Pain those Nights after purging with gentle Opiates join'd with mild Sudorificks, bathing in warm Water, and Fomentations applyed to the Parts, and Blifters when it is obstinately fix'd in one Place. (As for the Diet, it must be cooling, diluting, and chiefly Vegetable. The constant life of Whey is most affectual in this Diffcate; likewise a Milk Diet for changing the faline Constitution of the Secure of the Blood, is very talkful and proper.

Water-Guel, for feveral Days together, will abute the Pains and Swellings confiderably,

Chi IV. thro't he various Stages of Life. 163
by its Acidity correcting the walkaling Sales
in the Blood bits sations event out of ones.

and a stability of partitions a superment.

p-bo A ba Ofo the Gravel and Stone no stone

reish of the Place, going off and returning When any infoluble Matter stops in may Part of the Body, it gathers a Crust about it. which may browninto a Stone or front Matter in any Part of a human Body; as a finall Drop of concreted Blood may grower be a Stone; for by the Evaporation of the most fluid Parts it grows hard, and by Attraction of new Matter it increases in Bulky When these stony Concretions happen in the Kidneys, land are expelled, or deep into the Ureters, they produce what is called Greevel; when they lodge and flick in the Body of the Kidneys, and grow to fuch a Bulling not to drap into the Reluie or pals by the Ureters into the Bladder, they make the Stone in the Kidneys. But these Concretions her pen generally in the Kidneys and Bladden; and it is very certain, that if the Timber and other Contents of the Unine were not conflantly discharged, Such Concretions would happen to all Mankind prior the Urino of most found Persons being info and lafter it has Rood a sophile; with anddierofcopes will discover a black Speck in it, which is Sand; and wherever this Sand flicks, sit grows fail bigger by the Appolition of men Metter a Realth, and a fudden Sponseshon of

addition Raits stopping the Original of the

robbrild

The chief Signs or Symptoms of a Stone in the Kidneys are a fix'd Pain in the Region of the Loins, continually heavy like a Weight in the Substance of the Kidneys, with a kind of Numbness in the Part; but the Stone passing out of the Pelvis or Bason of the Kidneys into the Ureters, a most tormenting Pain follows, of all the most severe; an Inflexibility of the Back Bone, by the Extenfion and Compression of the Nerves; a burn-Heat in the Loins, a Numbness of the Leg of the same Side, by means of the Nerves being affected; a Retraction of the Tefficle for the fame Reason, the Urine either bloody, upon any fudden Jolt or violent Motion, or thin and watry, and little in Quantity; but after the Stone is fallen into the Bladder, the Urine presently becomes very thick turbid, blackish, and in great Quantity. Fleshy Filaments, or Matter voided by Urine, are suspicious Symptoms of a Stone in the Kidneys, especially if the Patient has been subject to voiding of Gravel.

The Symptoms of a Stone in the Bladder, are, a Titillation about the Neck of the Bladder, and Parts thereabouts; a Sense of Weight in the lower Belly under the Share-bone, and the Region of the Groin; a perpetual Defire of making Water, with a great Pain, especially upon any sudden Motion, which causes a Consussion of the Bladder, a Dribbling difficultly, and a sudden Suppression of Urine by the Stone's stopping the Orifice of the Bladder.

Plate

Ch. IV. thro the various Stages of Life. 105 Bladder attended with great needing to go to Stool, and a burning Pain in the Urethra: formetimes a white Mucus or Slime in the Urine; this may happen without a Stone in the Bladder: But the most certain Sign of all is, when it can be most certainly felt with

the Finger in And, or by a Catheter.

The Regimen in the Cure of the Stone in the Kidneys, is, by diluting and foft Diuneticks, both medicinal and dietetical, to any to expel it, if it is small enough to pass; but if it is brittle, it will often crumble and pais in the form of Gravel by those Means: If the Stone is too big to pals, non will not crumble, the only Method is to come to a fort of Composition or Truce with it, and ule a cooling and diluting Diet constantly, to hinder, as far as possible, its Increase; to use Diureticks that resolve gently, as Pariley, Fennel, Scorzonera, Mallows, Tea, Dandelion, Cichory, Saffafras, Oats, Barley, Honey, Vinegar and Honey; likewife nitrous Salts, and dulcify'd Spirit of Nitre; but the most fost and cooling Diluent of all is Whey, and the Emollients are Decoctions of Marihmallows and Linfeed-Tea.

Bathing in warm Water, and Glysters, are proper; leafoning the Food with Sea-last moderately will not be amis, for the modederate use of it is resolving and directick; and the Belly, in all Cases of the Stone, thould be kept lax and open. In a confirm'd Stone in the Kidne's violent Exercise or Motion is Dougla not to be an idealo.

cangerous.

While

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Stimitaring While the Stone is possing, we Things not should avoid the Use of all forcing proper in the and flimulating Things at first but Beginning. relaxing and lubricating the Passages, and quieting the spasmodick Disorders by Opiaces, is by far the lafest and best Method; and where Bathing cannot be performed, Oxbladders, half full of warm Water, constantly apply'd to the Part affected, may be very usefully substituted; and Bleeding takes off the Tenfion and prevents an Inflammation better than any Thing, and is therefore very necessary, especially when the Symptoms are urging and violent : When the Parts are fufficiently relaxed, forcing Diureticks joined with Opiates will be properly given.

The best Way to prevent the Generating of a Stone, is to keep the Body open by Whey, Broth, and a liquid Diet, especially for all

fuch as are troubled with Gravel.

When the Stone is fallen into the Bladder, all Endeavours must be used to make it pass as soon as possible, otherwise if it should happen to continue there long, it would in Time become a large Stone, which nothing but the Operation could cure

the Stone, it is not certain that it remains hill in the Bladder, because a very small Stone may pass by Urine insensibly; and if the Stone has passed, it is not certain that the Affair is over, for there are often more Stones remaining, and therefore the usual Remedies ought not to be discontinued.

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When

Ch. IV. thro the various Stages of Life. 46

When the Stone stops in the Urethra, emollient Fomentations ought to be apply'd to the Parts, and Oil injected; or in Case of Extremity; an Instrument with a Cavity in it, dipt in Oil; may extract the Stone.

occasioned by a Stone, may be mitigated very much by an Injection of Linfeed Oil, or that

of Sweet Almonds into the Bladder.

# Beading which cares

# is also prive C. H.A.P. V.

Of the Nature and Use of BATHING

DATHING being either hot or cold, it will be necessary to enquire a little into the Nature of it, and what Alterations it produces in human Bodies, in order to know in what Cases and Constitutions the Use of it may be either beneficial or hurtful. Therefore I shall begin with Cold-Bathing, which was in the greatest Esteem with the Egyptians, Jews, Greeks and Romans, as evidently appears by the Account given thereof in the Writings of Hippocrates, Galen, Suctonius, Seneca, Pliny, Oribassius, Celsus, Agineta, and others, needless to make mention of in this Place: But they who require to be fully fatisfied as to that Point, may peruse Floyer and Buynard on Cold-Bathing, wherein they will likewife find a great many Instances of surprising Cures performed by Cold Bathing Gg 2

in Rheumatisms, Palsies, Scurvies, Cachexies, Epilepsies, Gout, and Rickets, &c.

It is experimentally known, that Cold contracts the Fibres, as I have observed in treating of the Qualities of Air, pag. 104. and the more fuddenly it is applied to our Bodies, the more violently it operates: It has been likewise observed, pag. 87. that our Bodies undergo various Changes by the Alterations of the Pressure of the Air, in its Weight and Elasticity: Now if we consider that Water is 800 Times heavier than Air. what Alterations must we not then expect and be sensible of upon bathing or plunging all over into cold Water? For the Cold and Weight of the Water and Atmosphere acting all together, must consequently first brace up and straiten the Fibres and Vessels considerably in the Surface of the Body, and those Parts adjoining to it, and those at the Center the least and latest; so that the Blood will be forced in great Plenty upon the Viscera or Bowels, where there is the least Resistance: for which Reason it is never safe for those to bath who have weak or ulcerated Bowels. without endangering Life.

But those Ends which are compassed by a greater Weight or Pressure, are more effectually obtained by whatever encreases the Weight of the Water, or contracts the Fibres of the Body: Thus Sea-Water, by reason of the Salt it contains, is heavier and more preferable; upon which Account all the Humours in the Body must be propell'd

· · Oak

with

Ch. V. thro' the various Stages of Life. 469 with greater Force thro the Vessels in which they circulate. Besides, the Tension of the Fibres being greater, their Vibration will be both quicker and ffronger; fo that the Blood and Spirits will not only move more swiftly through the Vessels, but also be much more ground and broken, digested and rendered fitter to pass the Glands and small Vessels: Moreover, as the Immersion into the Cold Bath mightily encreases the Blood in the Brain and Viscera, being forced thither where there is the least Resistance, whereby the Quantity of animal Spirits, of Urine, of Gall, of the pancreatick Juice, and of all other Secretions, will be very much encreas'd, these Humours being thrust forwards with greater Celerity, will probably remove any Obstruction that is not too long fixed and obstinate; for which Reasons, if we would have the Blood difsolved, or any viscid Matter adhering to the Sides of the Vessels removed, or the Glands deterged, or a greater Quantity of Spirits fecreted, and moved with greater Celerity thro' the Nerves, or would force Urine, or remove Obstructions in the Liver, Spleen, pancreatick and mesenterick Glands, if they are not grown too obstinate (in which Case it is very dangerous) we should order Cold-bathing. In fine, whatever is to be effected by bracing the Solids, invigorating and quickening their Vibrations, and accelerating the Blood's Motion, is with Certainty to be had from the Use of Cold-bathing.

All Diseases therefore from a viscid Blood, G g 3 and

A Guine to HEALTH Part III. and a Lentor in the animal fuices (if the Elasticity of the Veffels is not worn out with Age and Debauches) will find Relief from this Practice. Befides, whatever Inconvenia encies proceed from a bad Perspiration, or when Humours are thrown upon the Surface of the Body, which cannot get through the Skin, this Method will relieve; for upon Immersion the whole nervous System is so shook, that the very Capillaries feel the Influence, and the minutest Passages are forced open by an encreased Velocity of the circulating Fluids, whereby the Skin will be cleared, and instead of retaining gross and acrimonious Humours in the cuticular Glands; will promote insensible Perspiration; and this is the Reason why People are so brisk and chearful after Bathing.

And it is for the Reasons already given, that Cold-Bathing is proper in most cutaneous Diseases, Scurvies, Leprosy, Elephantiasis, Rheumatisms, Lameness, Sciatica, Melancholy, Madness; some Palsies, Cachexies, Icteric and Hydropic Cases, before the Distempers be too far advanced; it likewise stops Hæmorrhages, Gleets, Fluor Albus; and cures also venereal

Impotency and nervous Diforders.

Necessary Rules

1. To Bleed and Purge, and
to be observed use such proper Diet and Medibifore Coldcines, both before and after BathBathing.
thing, as your Physician knows
to be suitable to your Disease and Constitution.

2. Not to bathe when hot and sweating, but cool; and not to flay in the Bath above

two of three Minutes, as the Patient can bear it; and to go in and out immediately, on the first Bathing, after an Immediately, on whole Body, because staying in too long would relax the Solids too much, instead of contracting and strengthening them.

fasting, or in the Afternoon towards Four or Five o'Clock: It is dangerous to go in after

great Drinking, or a full Stomach.

Palfies, Rickets, and feveral Diseases affecting the Nerves with Obstructions.

mouts, no Sweating is necessary, nor where Bathing is used for the Preservation of Health, or the invigorating of the animal Spirits.

6. Jumping in precipitantly, or throwing the Head foremost into the Cold-Bath, gives too violent a shock to Nature, and endangers too much the bursting some of the smaller Vessels; therefore the best Way is, holding by the Rope, to walk down the Steps as fast as one can, and when got to the Bottom, bending the Hams to shorten their Length, so as to bring their Heads a good Way under Water, and then popping up again to take Breath; and thus alternately for two or three Times, and out again, rubbing themselves very well with a dry Cloth, before they are dress'd.

Heat, and are much decay'd, ought can Bathnot to venture on Cold Bathing; nor ing it injuthey who are intemperate, and have

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cat extraordinarily; because the Distribution and Consumption of an abundant Chyle being thereby stopped, must occasion Fevers of Defluxions.

Vomiting, Venery, Watching, or any other Evacuation, we cannot well bear Cold Bathing; for the Spirits being weak, will be overcome by its Chilness.

In the Fits of the Gout, Epilepfy, and in Inflammations of the Lungs or inward Parts, and in the Beginning of putrid Fevers, Iliac Passions, and the Gripes, Colicks, and during any Desluxion, Cold Baths are improper; for they hinder Expectoration, repell Pains, promote the present Desluxions, Fluxes, and Pains; but when these acute Diseases, or chronical Pains and Desluxions are ended, it may be safe; and it is certain that Gout Pains are prevented by Cold Baths, and using to wash the Feet.

Corpulency, unfound Viscera or Bowels, and inveterate Obstructions, forbid the Use of Cold Bathing; for first, in very fat Persons the Fibres are so stuffed round that they have not Room to vibrate or contract with the sudden Squeeze of the Bath; and in unsound Viscera, or where any Part is much weaker than the rest, such an additional Force will press the Fluids upon that, very much to its Detriment, which may be either the burst-ing of the Vessels, or promoting the Discharge of some ill Humours upon that Part, which might otherwise drain somewhere else. In

inveterate Obstructions it is likewise improper, because the more violently the Fluids are propelled, the more the Obstructions will be riveted and lock'd in.

dered more effectual by Cold, so its of Warms relaxing Power is augmented by a moderate Warmth; for a gentle Heat always relaxes the Fibres of our Body, it being pleafing and agreeable to the Sense of Feeling. So that when we would have the Benefit of universal Relaxation, we ought to use a temperate Bath, which has only a mild Heat, like that of our Bodies, and is therefore less beneficial to cold Diseases, and less injurious to the Healthful, who use it chiefly to wash their Bodies, to temper the Natural Heat, and to take off Weariness.

But temperate Baths have many physical Uses besides Cleanliness and Pleasure, and are observed to be beneficial in the following Cases.

Tepid Baths moisten and warm; but if more hot, they heat and moisten less; they likewise open the Pores and promote a free Perspiration, and are proper in most Eruptions and Foulnesses of the Skin, especially where the Obstructions will not yield to the Cold Bath; for they not only relax the Pores, but likewise dilute the obstructed Matter at the same time, in being absorbed by the cuticular Vessels.

Warm Baths are proper in most forbutick Habits, Sciatica, Rheumatism, Colicks, Gravel, Costiveness, Gripes, Stiffness of the Joints and Muscles, and in most Cases proceeding from an obstructed Perspiration.

Temperate Baths are useful in all hot Intemperies, and are likewise proper in the bilious, viscid, or acrimonious State of the Blood; But they are injurious in Fevers, Inflammations, and in all acute Diseases, especially before the Concoction of the Humours.

In using the Warm Bath, the Diet in goneral should be easy of Digestion, thin and diluting, and in many Cases sweating in Bed after warm Bathing is necessary; but in this and in other Circumstances which may occur,

the Patient is to consult his Physician.

The naturally hot Mineral Baths, such as that famous one at Bath in Somersetslive, are much more powerful in curing Diseases and removing Obstructions, than the Artificial; the Waters of the former being impregnated with balsamic, volatile, stimulating, and subastringent Particles, which the last can never have by any Art or Contrivance whatever.

These natural hot Mineral Waters are like a Fomentation, which both supples and strengthens the Parts of the Body all over at once, and by gently shaking and undulating the Fibres, helps forward the vital Motions, which are ready to be at a Stand. In old Pains and Aches, which have been the Remains of nervous Distempers, and where some particular Part continues contracted, or has any Humours fix'd upon it, which it cannot dislodge, these Waters pump'd upon it hot from

Ch. V. thro the darlous Stages of Life. 475 from the Spring, do more towards a Cure than all the most efficacious Compositions of Medicine sugles the set of the more more

Bathing all ever in these Springs cannot but wonderfully open that almost infinite Number of fecretory Orifices upon the Surface of the Body, and clear the cutaneous Ducis of the Matter which is apt to flick in them; by the opening of which Spiracula the Fluids of the whole Body have more Room to move in, and have proper Vents to reak out a great deal, which is of great Service to the Occonomy to get rid of a replace and stills

Their small Sulphur-Fountains likewife inwardly taken, to Aftonishment warm and strengthen a decay'd Stomach, especially if relax d and worn out almost with Luxury and Debauches: The most grievous Nauseas and Vomitings from these Causes have been removed by them : For they both foften again with proper Moisture the Fibres which have been render'd incapable to vibrate, by the Ufe of hot, burning, spirituous Liquors, and at the fame time draw them into greater Tenfity; as a Cord which relaxes with over-drying, fills up and straitens upon the Contact and Attraction of a convenient Moisture.

The Intal Share of fine Salt which likewife attends, and is as it were wrapped up in the Particles of Sulphur, cannot but contribute somewhat in restoring the Tone of such decay'd Parts. But belides the Benefit there do to the Stornach, they also carry along with them into the most remote Recestes of the

Body a Ballamic of Nature's own Preparation, whereby such Decays in the Stomach, or in any of the Viscera or Bowels, from Ablaces, Ulcerations, or any like Causes, are with great Success relieved; and particularly if they be of the Kidneys and Urinary Passages, because they wash through them in more plenty, than where they come by the ordinary Course of Circulation.

# on diverse received of Frictions.

Friction, or Rubbing with a Flesh-Brush. Cloth, Hand, &c. is, as it were, an alternate Compression and Relaxation of the Parts of the Body. A gentle Friction only compresses the Veins; but by a stronger Degree, the Arteries are also compressed. By compreffing the Veins by Friction, the Motion of the viscous Blood to the Heart is accelerated? hence the Motion of the Heart is roused: By which Means, the Blood is with greater Velocity propell'd through all the Vessels. The vital Force may, therefore, be augmented to any Degree, by means of Frictions, without giving any Medicine internally; for by means of Frictions a burning Fever may be excited in the most dropsical Patients.

In those Bodies where almost all the Organs of Digestion are so languid, as not duly to perform their respective Functions, Friedrich whole Abdomen, or Belly, when the Patient is fasting, have been found to produce for prisingly happy Effects. Hence the Ancients

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Ch. V. thre the warious Stuges of Life. 477 had Exictions in so great Veneration, not only for the Preferration of Health but also for the Cure of Difeales, that the Grecians Aras bians, Romans and Egyptians in general con-Stantly practifed that Method , and Galen wrote a whole Book, intitled de Frictionibus. Celfus likewise recommends the Usefulness of Frictions in his Works: But this Practice has been almost neglected among the Moderns till of late, and is now reviv'd again with no less Success than in former Days, tho' not so general; for it is experimentally known, that it will strengthen weak Limbs, and bring Nourishment to the Parts, and likewise cure the Rickets in Children, especially if Cold Bething be used, a sale warm of all stations

Therefore I would recommend to all Mothers and Nurses, to rub the Back, Sides, Shoulders, Hips, and Limbs of their Children by a warm Fire Night and Morning, being very necessary to prevent Obstructions and Rickets, and to promote their Growth and Activity; and likewise to preserve their Limbs

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By Frictions a free and full Circulation and Perspiration may be usefully promoted; and this is performed by affilting Nature to throw off by Perspiration the Vapours and Recrements of the third Concoction, which are of ten retained and pent in between the Scales of the Scarf-skin, as likewise in the Interffices of the outward Muscles and Membranes of the Body; so that by the Use of Frictions Mature is not only affished in discharging by insensible

Per-

478 A Guine to HEALT Well Part III. Personation those excrementitious Particles. which frequently hinder a full and free Circulation, but likewife Blood and Spirits are thereby attracted to those Parts most remote from the Seat of Heat and Motion by which Means also the natural Heat is increased, and the superficial Muscles are render'd plump and graduation this of erriet de control sont

Hence it is evident, that uncient People. and fuch as have weak Nerves and lead a fedentary Life, especially those who are subject to Numbreis. Weakness, or Obstructions in their loints, or are threaten'd with paralytick Diforders, in order to supply the Want of Exercife of other Kinds, ought to have their whole Bodies, more particularly their Limbs, rubbed for half an Hour every Morning especially, and at Night, with a Flesh Broth, Flannel, or Napkin, till the Parts begin to grow red and warm. The Friction should be made first on the Arms, Hands, Feet, Legs, and Thighs, from whence we ought to proceed to the Shoulders, Back, and Breaft; and the Head should be rubb'd the last of all. Among the Ancients there were Frictions of various Kinds, and subservient to different

Purpotes. Hence Hipporpates in his Treatife De Med. Offic. celle us, That Friction may Arcfolve, contract, incarn, diminish: Since for frong Frictions contract; gentle Friction refolves, much Briction diminishes and 5 moderate Briction condenses Any Part of the Body is render'd more last, by being rubrebed with foft oleons Substances 2000 and 1141

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Ch. W. thro' the various Stages of Life. 470

Nothing is more beneficial in curing a Weak ness of the Fibres, than Frictions with rough warm woolen Cloths, especially if previously impregnated with the Smoke of burning Amber, or Mastick, that at the same time this gromatick and corroborating Steam may enter the relaxed Parts. But we are to proceed gradually in this Work, and not to use too Arong Frictions at first ; lest either the stagnated Fluids in the preternaturally distended Vessels should be too copiously convey'd to the Ideart, and by that Means overwhelm and suffocate it; or the tender Vessels should be broken by imprudently increasing the Motion of the Blood. The standard of short

When the Ancients wanted to reduce extenuated Parts to their natural Situation, they stimulated and irritated thefe Parts fo as to produce a gentle Inflammation and Swelling; for by this Means, the Humours being convey'd with a greater Impetus and a briffeer Motion to the Parts, they distended the too rigid Vessels proportionably the more. By often repeating this Arritation, the too great Strength of the Verfels was to diminished, as to yield to the Humours, which, in order to their good State of Health, must necessarily flow into them,

Thus Galen, in the third Chapter of his fifth Book De Sanitate Tuenda, informs us & That by Frictions with pinguious Substances, the in f.a few Days restored the Flesh of many who had been for a long time emagiated boom

Hence Frictions with fat Substances are highly proper in these Cases, but only to such a Nothing

Degree.

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Degree as to excite a flight and gentle Redness of the Part; for when the Friction is violent. that which it attracts to the Part is discussed ; but, in this Case, a large Distension of the too ftrong Vessels is required.

Galen, in the seventh Chap. of his seventh Book De Method. Medend. gives this Caution in the following Words: 'When, fays he, we intend to produce Flesh on any Part, we are by Friction to heat it, so as to render it tumid; but, when we intend to discuss and evacuate, this Friction and Heat are to be continued till the turnid Part Subsides.

And in the fixteenth Chapter of his fourth Book De Method. Medendi, he tells us; 'That it was customary with some to strike 4 emaciated Parts with slender Rods, slightly anointed, till the Parts became moderately ' tumid.' He also informs us, that by such a Percussion repeated daily, or every other Day, together with a moderate Friction or Stimulus, the diminutive and extenuated Buttocks of Children were wonderfully enlarged.

Hence the Reason is obvious, why Friction fornetimes produces opposite Effects; for a frong Friction with rough dry woolen Cloths, especially when impregnated with the Fumes of kindled Aromaticks, as I have observed before, cures too weak Fibres; whereas a gentle Friction with pinguious Substances, by atctracting the Humours, and relaxing the Solids, softens too rigid Fibres,

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